Kundalinī under Scrutiny

Octavio da Cunha Botelho

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ABSTRACT

This study will seek to identify and analyse the problems, from different perspectives than deferential and confessional ones, regarding the ideas and practices of Kundalini Yoga, behind the preaching of gurus and the apologetics of followers. Therefore, it is an approach from a rare perspective, since almost all works and instructions on the subject are treated from a deferential and often apologetic perspective. During the preparation of this study, it was not possible to find even one study on Kundalini from a critical perspective, since the academic authors are all religious professors. When we find something critical, it is always from a rival tradition attacking another, therefore with a sectarian bias. Thus, the reader will find the approach of this study strange, since everyone is used to reading about yoga through the eyes of a follower or sympathiser. Therefore, the following study will point out and analyse problems that are generally covered up by apologists, instructors, and practitioners, so that the reader can get an idea of what exists in the books and practices behind the praise and optimism of the followers.
KEYWORDS: Kundalini, Chakras, Tantra, Prana, Yoga, Anecdotal Evidence.

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Part One

I.1. Introduction

The following study will attempt to identify and analyse the problems, from different perspectives than deferential and confessional ones, concerning the ideas and practices of Kundalinī Yoga, behind the preaching of gurus and the apologetics of adherents. Therefore, it is an approach from a rare perspective, since almost all works and instructions on the subject are treated from a deferential and often apologetic perspective. During the preparation of this study, it was not possible to find even one study on Kundalinī from a critical perspective, since the academic authors are all religious teachers. When we find something critical, it is always from a rival tradition attacking another, therefore with a sectarian bias. Thus, the reader will find the approach of this study strange, since everyone is accustomed to reading about yoga through the eyes of an adherent or sympathiser. Therefore, the following study will point out and analyse problems that are generally covered up by apologists, instructors, and practitioners, so that the reader can get an idea of what exists in the books and practices behind the praise and optimism of the followers.

A primary problem in studying the theory and practice of kundalinī, when studied through texts, is the fact that, to this day, we have very few published critical editions. Almost all editions are extracted from only one manuscript, therefore there is no prior comparison and analysis of different manuscripts, and thus the available editions do not include a Critical Introduction, let alone a Critical Apparatus. In most cases, it is not even mentioned from which manuscript the printed edition was extracted. Furthermore, due to the absence of this prior critical work, it is not even possible to know if the published work exists in more than one manuscript recension, or if the manuscript used is or is not the autograph

(manuscript of the author himself). Except for a few works on Hatha Yoga (see bibliography), all we find are Vulgate editions (without the prior work of critical editing). During the research for this study, it was not possible to find texts from the tantra tradition published through critical editing.

Another complicating problem is the divergence in translations into contemporary languages, which generates a multiplicity of interpretations, in which each interpreter assures that his meaning is correct. Not only Sanskrit, but the translation of ancient languages into contemporary languages is problematic, due to various linguistic, grammatical, polysemous, ethnic, sectarian, evolutionary, etc. factors. Therefore, the translations here from Sanskrit are made, when possible, through the reproduction of the Devanagari text (the alphabet used by the Sanskrit language), transliteration into the Latin alphabet, and translation into English, so that the reader, with knowledge of Sanskrit, can compare the translation with the original text, although I do not guarantee that it is the best translation, due to the complexity involved in translating. Also, when available, I consulted other translations into English, that is, a work of comparative translations.

The success of the theory and practice in awakening kundalinī occurred because of its fascination, much more than because of its rationality or scientific basis. For those who believe in occultism, the theory is fascinating, so the first step in accepting the theory is believing in the subtle world, because without this prerequisite, the theory of kundalinī cannot be sustained. Thus, credulity is an indispensable factor in accepting the theory and in developing an interest in the practice.

I.2. The Meaning of the Term Kundalinī

The feminine adjective कुण्डलिनी - kundalinī means “circular”, “spiral”, and “coiled”. Since it is identified with Shakti (Energy), consequently kundalinī shakti means “coiled energy”. Cognate is the

masculine noun कुंडलः kundalah, “an earring in the form of a ring”, “bracelet”, or “the coil of a cord”. Also, the adjective कुण्डलिन् - kundalin (decorated with earrings in the form of a ring, circular, spiral). Kundalinī is also translated as "Serpentine Power," because it lies dormant coiled in the lower chakra (mūlādhāra chakra), in the form of a coiled serpent, waiting to be awakened through yoga practices, to then uncoil and rise, through the upper chakras, to the top of the head (sahasrāra chakra). We will see later that not all texts coincide with this description.

I.3. The Origin of the Idea of Kundalinī

It is probably found in cosmogonic notions (the cosmic serpent) and in the idea, also very ancient and related to cosmogonic symbolism (also found outside India), that the progress of the soul results from an ascending movement, as well as in the conception of the body as a replica of the cosmic model. Thus, कुण्डलिनी - kundalinī has an essential symbolic role, as an energy that is universal and present in human beings, in the correspondences between the human and cosmic levels. Tantrism affirms this repeatedly, and the purpose of its teachings and practices is precisely to allow the adept to perceive this. The adept, in fact, when awakening kundalinī and being able to follow the movement, repeats within himself the various phases of cosmic emanation and reabsorption. Therefore, it can be said that the awakening of kundalinī (as well as its dormancy) always occurs on two levels simultaneously: cosmic and human. It seems necessary, however, to distinguish between two movements of kundalinī: one where the cosmic and emanative aspect is predominant, and another where the human and absorptive aspect predominates. Despite brief mentions in the oldest Upanishads (6th to 5th centuries BCE), the development of an occult physiology only gained momentum from the end of the first millennium CE.

I.4. A Hypothetical Description of Kundalini Excluding Disparities

Through a monumental effort to exclude the many divergences in the descriptions, it is possible, at most, to find, in summary form, the following ideas that coincide most in the many descriptions of Kundalinī. These are: it is understood as a form of power, called "the coiled one," because it is compared to a serpent, hence the name "serpentine power," which, while dormant, remains coiled at the base of the spine and which, when awakened, rises through a channel inside the spine, playing a role of utmost importance in Yoga and Tantrism. It is cosmic energy, the divine creative impulse present and giving life to the human body. When awakened through the relevant practices, it leads the yogi to a state of liberation, uniting individual energy and consciousness with cosmic energy and consciousness. Kundalinī, as a latent energy, lies coiled at the base of the spine, in the mūlādhāra (basic support), which, when awakened from its slumber, ascends through the middle channel, the susumnā nādi, and forces its way step by step through the different centres (chakras - literally: wheels or circles) of the subtle body, situated one above the other along the spine and in the brain, to the last one, the sahasrāra (thousand petals), and sometimes even beyond. This is part of an ancient "mystical physiology," where arteries (nādis), vital breaths or winds (prānas), chakras, ādhāras, sthānas, and other centres (literally: places or supports) play a central role.

One complicating factor for a clear understanding of the nature and function of Kundalini is the divergence in descriptions, locations, quantity, appearance, nature, function, etc., whether of the chakras, the nadis, the vital energies (pranas), the Sushumna, or Kundalini. There is no uniformity in all points of the descriptions, especially in the details, and when we find similar descriptions, the coincidence occurs because one author extracts the description from

another author. The most popular description is that found in the book *The Serpent Power*, an English translation of the Sanskrit texts *Sat Chakra Nirūpana* (Description of the Six Chakras) and *Pādukā Panchaka* (Quintuple Footstool) by Sir John Woodroffe (Arthur Avalon),[1] with commentary and numerous notes, which, over time, became the model for the English-speaking public. Regarding this English translation, Kathleen Taylor observed: "It probably helped to standardise the number and positions of the chakras in modern works on yoga, as it was for a long time the main work on the subject in English. It was cited in almost all subsequent secondary sources for decades, even by Indian yoga teachers and gurus writing in English, who used it instead of consulting the original texts".[2] Because Satchakra Nirūpana is a later work (16th century CE), the author, Pūrnānanda, probably revised the earlier descriptions and synthesised them For, when we investigate with a critical eye, what we find is a diversification in the descriptions when we consult different texts. The divergences are also noted according to the antiquity and recenticy of the texts. Moreover, what further increases the divergences are the translations into contemporary languages. For example, in the Vaishnava tradition text, Nārada Pancharātram (X.03), translated by Swami Vijnananda, the Sanskrit phrase तिस्रकोटयस्तटर्धेन शरीरे नाडयो - tisrakotyastatardhena sharīre nādayo was translated as “there are three and a half kotis of nādis in the body”. Koti is a number used in Ancient India, therefore three and a half kotis, in this translation, were translated as 35 million

1 Strictly speaking, the pseudonym Arthur Avalon does not belong solely to Sir John Woodroffe, but, in deed, to a partnership between him and Atal Behari Ghose, the latter possessing knowledge of Sanskrit and Woodroffe the editorial skills, as later research revealed (for further information, see: *Sir John Woodroffe, Tantra and Bengal: An Indian Soul in a European Body?* by Kathleen Taylor, especially p. 203ff).

2 TAYLOR, Kathleen. *Sir John Woodroffe, Tantra and Bengal. ‘An Indian Soul in a European Body’*? Richmond, Curzon Press, 2001, p. 134. On this same page, the author also noted that *The Serpent Power* "in many places it is badly written".

(VIJNANANDA, 1997: 313 and २६६). However, in Bhumipati Das's translation, the same phrase was translated as "there are three hundred and fifty million arteries within the human body".[3] That is, in the first translation a koti (कोटि) represents 10 million, while in the second translation a koti represents 100 million.

Another complicating factor for the precise understanding of kundalini and the chakras, from a scientific perspective, is that their descriptions are shrouded in a thick fog of symbolism, imagination, allegory, metaphors, speculation, subjectivity, and even, in a way, hallucination. This results in differences in the descriptions of the ornaments that adorn the chakras, such as lotus petals, geometric figures (square, circle, triangle, and hexagram), colours, Sanskrit letters, mantras, deities and animals (elephant, fish, ram, and antelope), and the supernatural powers achieved through awakening. For an idea to be scientific, there must be uniformity in experiences, a pattern; otherwise, it is anecdotal experience. It can be more divergent when the experience is internal and individual. Experiences with visualisation or with the awakening of kundalini are personal and internal experiences.

I.5. The Disparities

What needs to be observed is the fact that the descriptions and explanations of Kundalini in books and accounts of yogis' experiences, when critically analysed, are sometimes coincident and sometimes divergent from each other, as are the items related to it, such as the Nadis, the Chakras, the Pranas, etc., since they differ in nature, location, function, form, and number.

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3 Even if the existence of these nādis in the subtle body is true, the number 350 million is exorbitant, impossible even for a seer to count; it must have been a hyperbolic outburst from the translator. कोटि - koti appears as 10 million in the dictionaries and glossaries consulted.

I.6. The Divergences Regarding the Nadis

With respect to the number of nadis in the human body, the texts diverge in the following way. The Varaha Upanishad states that the nadis permeate the body from the soles of the feet to the crown of the head (Iyengar, 1993: 32). The Kshurikā Upanishad (verse 17), the Brahmavidyā Upanishad (verse 12), the Hatha Yoga Pradipika (III.123), the Sat Chakra Nirūpana Commentary verse 01, and the Goraksha Samhitā mention the existence of 72,000 nādīs (energy channels – prāna) in the body; the Trishikhibrahmana Upanishad (§§ 66-76) mentions that the shushumnā channel is "in the middle of the body with four times twenty thousand (therefore, 80,000) nādis"; the Prapanchasara Tantra gives the number as 300,000; and the Shiva Samhitā (II.13) states that there are 350,000 nādīs in the human body, of which 14 are the most... important. The Nārada Pancharātram (X.03) raises the number to 35 million nādis. The Kshurikā Upanishad, verse 15, mentions that 101 nādīs are the best of them and the Chandogya Upanisahd (VIII.06.06) mentions that 101 nādīs (शतं चैका च हृदयस्य नाड्यः – shatam chaikā cha hrdayasya nādyah) come from the heart (hrdaya). The Yogachūdāmani Upanishad 16 states that "among the most important (nādis) (72 nādis), 10 are most frequently taught and names each of them.

The first verse of the Satchakra Nirūpana (Description of the Six Chakras) states that the nādi idā is to the left of the nādi sushumnā and the nādi pingalā to the right. However, the commentary on this verse mentions that there is another version in which the nādis idā and pingalā alternate from left to right and vice versa, circling the padmas (lotus, chakras), forming a braid and heading towards the nasal cavities (WOODROFFE, 1964: 320-1).

Prāna is defined in many books as "vital breath," "vital air," "life energy," or "breath of life," because everything that lives, lives by virtue of the vital breath (prāna). That is why the practice of prānayāma is so important in yoga exercises. It is often said that

nothing lives or survives without vital breath or life force. An organism lives as long as it breathes and dies when it stops breathing. Therefore, according to this speculation, breathing is indispensable for life. However, these notions about life were conceived at a time when little was known about the nature of life, since there are organisms that live without breathing, and breathing takes on different processes. For example, the respiration of fish and other marine animals is different from the respiration of mammals. Furthermore, mammalian and bird organisms are capable of living without breathing for some time, that is, during the embryonic and incubation periods respectively, before birth. This problem bothered some Hindu speculators, especially those with knowledge of physiology and natural science, so a new explanation for this inconsistency was developed, imagining the idea that, in addition to prāna, there exists prānana (vibrant breath): "When the consciousness of God flows in the creative cycle, it takes the form of that breath which is not this breathing of inhaling and exhaling, but prānana, that is, vibrant breath. When a woman conceives a child, this child is first produced with this vibrant breath. At that moment, there is no breath, there is only life. This is vibrant breath" (MAHĀRĀJ, 2010: 19). Because the theories are the result of the fertile imagination of Hindu speculators, some explanations are even comical. See the following passage about the nature of one of the vital breaths (prānas), known as udāna, that this "exists when we defecate and urinate in the bathroom". In other words, when we defecate and urinate outside the bathroom, this udāna (vital breath) does not exist. Also, samāna is that vital breath "that keeps our nerves in their proper position..." (MAHĀRĀJ, 2010: 20-1). Now, the nerves do not move from their place, except through surgical intervention, therefore they do not need a breath or supernatural energy to keep them in place.

A recurring fact in tantric literature is the abundance of Sanskrit technical terms, which makes the reading obscure and incomprehensible to the reader, but without demonstrating and

proving the existence of what is mentioned, that is, many technical terms and little or no proof of the reality of what is discussed. So, when we find clear, understandable and tangible passages, what we often perceive are absurdities such as those mentioned above.

I.7. The Divergences of Kundalini Regarding Location and Form

The Sārdhatrishatikallotara, a text from the Shaivasiddhanta tradition of the 6th or 7th century CE, locates the kundalini in the heart region, instead of the mūlādhāra region at the base of the spine, and states that it has the form of a tongue of fire, instead of the form of a coiled serpent. Kenn Dongart added: "There are major differences between this teaching and that of the hatha yoga tradition; here, kuṇḍalinī does not lie asleep in the form of a serpent coiled at the base of the spine; instead, it must be summoned from its natural home at the top of the head to rescue the individual soul (jīva). In fact, according to Tompkins, kuṇḍalinī is not described in any of the tantric sources as lying asleep at the base of the spine. This idea, so commonly found in hatha yoga sources, argues Wallis, would have been absurd to the tantrics, for 'if kuṇḍalinī were asleep, you would be in a coma'. Therefore, from tantric sources, we find that kuṇḍalinī resides at the top of the head, from where it is invited to descend to the relevant centre (frequently the "the heart, sometimes the kanda (the junction of the stalk), creating a tension similar to that of an elastic band, which can be used to catapult the soul or individual consciousness to the highest centre" (DONGART, 2016: 10). As mentioned above, there are considerable differences between the descriptions in the older texts and the more recent texts, especially since the systematisation of the Hatha Yoga tradition.

Another tantric text, the Kubjikāmata 5.84, agrees that Kundalinī has the form of a serpentine energy, but locates it in the dwādashanta...,[4] instead of locating it in the mūlādhara chakra, at the

4 This refers to the endpoint of breathing (exhalation), or the culminating point of vital energy. That is, it is the point where exhalation ends,

base of the spine, as is the more well-known location. The Agni Purāna 214.27 states that Kundalinī "remains in the heart in the form of a sprout". The Trishikhibrahmana Upanishad (62-5) states that Kundalinī "is above the navel. It is composed of eight different components and is an eight-turn spiral". This same Upanishad, in passages 66-76, contradicts most descriptions by stating that "there is the Shshumnā Nādi firmly situated in a well-placed location in the middle of the umbilical node," and further on that the Idā and Pingalā nādis originate in the umbilical node, contradicting the best-known descriptions that locate the three main channels in the Mūlādhāra, that is, at the base of the spinal column. Another text, the Vedic Yogachūdāmani Upanishad §§ 36-44, mentions that "the Kundalinī is in the form of eight turns above the navel node," and also that "it is there to confound fools (if it is below the navel node) and to grant liberation to the yogi (when it reaches above the navel, through the path of the sushumnā)." The Yogashikha Upanishad 169 states that "the Mūlādhāra, which is triangular in shape...", the Gayatri Tantra mentions that the shape of the mūlādhāra chakra is triangular. While the Sat Chakra Nirūpana 05 mentions that "in this (lotus) is the square region (chatushkona chakram) of prthivi (earth)..." (WOODROFFE, 1964: 332). This last text, in verse 10, mentions that Kundalinī resides in the mūlādhāra chakra "similar to a serpent and performs three and a half turns around Shiva," also the Gayatri Tantra 3.44.06. The Shadilya Upanishad states that Kundalinī has "the shape of eight turns" (Ayyangar, 1952: 455), Bhūtashuddhi Tantra (chapter 16) mentions that Kundalinī "is coiled in one hundred turns." The Shandilya Upanishad, instead of locating Kundalinī in the mūlādhāra chakra at the base of the spine, as most descriptions do,

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located 12 (dwāda) finger widths from the nose. Or also, the point 12 finger widths above the head, the culminating point of the sahasrara (the crown chakra). Another interpretation is that it is a Twelfth Centre (chakra), which is identified with the pituitary gland, so that, according to this interpretation, there are six more chakras above the brain, in addition to the six chakras below the brain.

states that "the location of Kundalinī is beyond: below and above the navel" (IV.08).

Given the lack of critical editions of the Upanishads, discrepancies arise not only in translations into contemporary languages, but also in the wording of words and phrases in Sanskrit in the available editions. So, regarding the location of the kundalini, the Yogakundalini Upanishad I.07 differs in the wording of the compound word स्वस्थानादा - swasthānādā (AIYAR, 2003: 317), which is written in some editions as स्वस्थानाभा - swasthānābhā, since the very abode (swasthāna) of the kundalini can be in the navel (nabhi) swasthānābhā, its own (swa) abode (sthāna) from the navel (nābhā) - AIYAR, 2003: 199; 317 and AYYANGAR, 1952: 252, or in the mūlādhāra (SIVANANDA, 1980: 216[5] and VISHNUSWAROOP, 2015: 16), at the base of the spine. The difference in translation can also occur with the way in which the translator or interpreter breaks down the compound words in Sanskrit.

Unlike the more widely accepted view, Surendranath Dasgupta noted that "according to the Cūdāmani Tantra, the sushumnā is not inside the spinal column, but outside of it. Also, according to the Nigamatattwasāratantra, idā and pingalā are both inside the spinal column and not on the left and right sides respectively" (DASGUPTA, 1975: vol. II, 353n1). Another curious difference, in relation to most accounts of the ascent of kundalini, appears in a text from the Kashmir Shaivism tradition, known as Vijnānabhairava (verse 28), in which, unlike almost all other accounts, the ascent of kundalini does not occur through a gradual

5 Swami Sivananda's English translation of his book Kundalini Yoga differs considerably from other editions and translations consulted, particularly regarding the numbering of verses. Verse I.07 appears as I.10 in Sivananda's version, and some phrases are absent from the Sanskrit text. Due to the lack of information about the manuscript source of the translation, it is impossible to know whether he intended a more extensive and explanatory translation or based his translation on a different manuscript.

climb through all the chakras until reaching the chakra at the top of the head (sarasrara), but rather through a sudden ascent from the mūlādhāra to the Brahmarandhra. (at the top of the head), when performing a type of dhāranā (concentration practice). The translator, Jaideva Singh, explained it this way in a note; "This dhāranā refers to the ascent of kundalini which goes in an instant to the dwādashānta or brahmarandhra (the chakra at the top of the head) and dissolves into it. This is known as chit kundalini or akrama kundalninī, that is, the kundalini that does not pass successively through the chakras, but goes directly to brahmarandhra" (SINGH, 1993: 25n2).

I.8. Divergences Regarding the Chakras (Padmas)

Strictly speaking, there is no uniform chakra system, as each Hindu tradition had its own chakra system, which developed over time, as we will see below. Therefore, descriptions of the chakras may coincide or diverge in terms of quantity, shape, location, deities, relationship with kundalini and/or nadis, etc. The best-known and almost universally accepted version is that presented in the book *The Serpent Power*, with an extensive introduction, including translations with commentary on two Sanskrit texts, published by Sir John Woodroffe (Arthur Avalon), which was very well received by the English-speaking public and published in the first decades of the 20th century. However, subsequent publications, translations, and studies have shown that this version of the chakras is only one among many others, then unknown to the wider public due to the lack of translations into contemporary languages. Therefore, prior reading of the above work by the reader will aid in understanding the similarities and differences in the descriptions below; that is, Woodruff's work will be the reference for comparison with the different versions, and will therefore be referred to from now on as the conventional version.

I.8.1. The Nine-Chakra Version

Unlike the conventional number of seven chakras (padmas-lotus) located in the spine and at the top of the head, some chakra systems enumerate and describe a greater number of these energy centres. Therefore, the description of the nine chakras, according to the Saubhagyalakshmi Upanishad, III.01-09, as translated by Shyam Sundar Goswani, which includes the additional talu (or lalana) and nirvāna chakras (GOSWAMI, 1999: 159), will be reproduced below:

III.01. In the perineal region (ādhāra) is the brahma chakra (that is, the mūlādhāra chakra). There is a triangle (trirawritta, or trirawarta, that is, turned three times; the tantric term is traipura kona) which is a triangular region in the pericarp (of this chakra) where Shakti (Power, that is, the power of kundalini) resides, which is in the form of a lightning bolt. Concentration should be done in this form. There (in the triangle) is the seat of kama (an aspect of the apāna force) in the form (of the mantra 'Klim') which grants all desires.

III.02. The second is the swādishthāna, which is a chakra that has six petals. Inside the (pericarp of the) chakra is the linga (a divine form of concentration and worship) the colour of a new leaf. Concentration should be done in this linga. Here is the place of udyana (that is, for the practice of lower ruddiyanabandha control) which develops an adamantine suction power.

III.03. The third is the nabhi chakra (manipura chakra). Within the pericarp is the kundalini, which is as bright as ten million newborn suns (that is, shining deeply) and as splendid as lightning, and is in five coils like a serpent. Concentration must be made on Kundalini (so deep and very bright). The awakened Power (samarthya-shakti) (that is, the power of kundalini awakened by concentration) that is in the manipura chakra grants all success.

III.04. The next one is the hridaya chakra (that is, anahata chakra). It has eight petals and faces downwards. Inside (the pericarp) of this chakra is the bright form of linga (or jivatman, lustrous like the flame of a lamp). Concentration should be made on this. It is called

hansakala (that is, when the jivatman - incarnate spirit, being purified, manifests its spiritual power), it is all love and displays the great power of control.

III.05. The next one is the kantha chakra (vishuddha chakra), which is four fingers in size. On its left side is the idā, the nadi of the moon, and on its right side is the pingalā, the nadi of the sun. Inside the (pericarp) of the chakra is the white sushumnā on which we should concentrate. The anahata gives success to those who know this.

III.06. The next one is the talu chakra (or lalana chakra in the tantric tradition). It is located (externally) in the uvular region (that is, belonging to the palatine uvula), in the oral cavity, being supported by the front teeth. This chakra has twelve petals. The flow of amrita (immortal substance) is flowing in this centre. Here, concentration on emptiness should be done. This causes the absorption of sensory consciousness (chitta).[6]

III.07. The seventh is the bhru chakra (ajna chakra). It is a subtle chakra. Here, concentration should be done on the light of knowledge like an immobile flame (in a windless place). This chakra is the root of the cranial centres (kapalakanda). Here, in the ajna chakra, the superpower of the effectiveness of the word (vaksiddhi) is achieved.

III.08. The next chakra is the brahmarandhrā, which is also called nirvāna chakra. Here concentration should be done on Shiva (Supreme Being) like a smoke-colored flame (dhumrashikhakara). Here, too, is located the Power in form (jalandharapitha), granting liberation. Thus is the parabrahma chakra.[7]

III.09. The ninth is the akasha chakra (the sahasrāra). Here is a sixteen-petaled lotus (chakra) with its face turned upwards. Within the pericardium of this lotus there is a triangular-shaped region within

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6 This "wheel" (chakra) does not appear in the description of the seven conventional chakras.

7 This "wheel" (chakra) also does not appear in the description of the seven conventional chakras; therefore, the two additional chakras are the talu (lalana) and nirvana chakras.

which resides the elevated power (urdhwashakti, that is, the elevated kundalini power from the mūlādhāra chakra) in relation to which is the supreme void (parashunya). Concentration should be done here (with kundalini united with Parama Shiva). The Supreme Void is the abode of the Supreme Being (Purnagiripitha). All desires are spiritualised here.

In order to inform the reader of a recurring theme that few people know about, since almost everyone never compares translations, I reproduce below the translation of passage (III.01-9) from the same text (Saubhagyalakshmi Upanishad), translated by A. G. Krishna Warrier, so that the reader may know how much translations from Sanskrit to contemporary languages can coincide or diverge from one translator to another. Also note the obscurity of some passages in the translation below:

III.01: Then the gods said to Him (Nārāyāna): Teach us to discern the nine wheels.[8] 'So be it,' He said: At the base is the wheel[9] of Brahman in the form of a triple circle of waves. In that root (mūla) is a power. One should meditate on it in the form of fire. There is the seat in the form of desires; it produces the objects of all desires. Such is the basic wheel.

III.02: The second is the Svadhisthana wheel; it has six petals. In its centre is a phallus facing west. One should meditate upon it as if it resembled a coral sprout. Right there is the 'seat of the belt', producing the power to attract the world.

III.03: The third is the navel wheel, a wide vortex with a curved shape like that of a serpent. Meditate on its centre upon the 'power of the serpent', resplendent like thousands of rising suns and similar to

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8 The Sanskrit phrase in the original text is नव चक्राणि - nava chakrāni, which literally means "nine wheels" or "nine circles". However, in the Yoga system, chakras are given a technical meaning of "Energy Centres" which carry out the transition of subtle energies (prānas) from the subtle body to the physical body and vice versa.

9 Throughout this passage, the word chakra is translated as "wheel".

lightning. It has the power of competence and produces all perfections. It is the (called) Manipuraka wheel.
III.04: The heart wheel has eight petals and faces downwards. In its centre, on the phallus of light, one should meditate. The symbol (of divine Power) here is the swan. It is loved by all and enchants all worlds. III.05: The throat wheel (extends over) the width of four fingers. On the left is Ida, the nerve of the moon; on the right is Pingala, the nerve of the sun. In its centre, in the light-colored Susumna, one should meditate. Perhaps in this way one becomes the giver of the perfection of Anahata.
III.06: The wheel of the palate: There flows the immortal elixir; the image of the small bell is in the orifice from which is suspended ‘the royal tooth’ (the uvula), the tenth opening. One should meditate on the emptiness there. The dissolution of mental substance occurs.
III.07: The seventh, the wheel of the eyebrows, is the size of the thumb. There, in the eye of knowledge, in the form of a tongue of fire, one should meditate. This is the root of the skull, the wheel of Ajna, the giver of power over words.
III.08: The orifice of Brahman is the wheel of Nirvana. One should meditate on the opening in the form of a wisp of smoke, thinner than a needle. There is the seat of the meshes, the generator of liberation. Therefore, it is the wheel of the supreme Brahman.
III.09: The ninth is the wheel of space. There is the lotus with sixteen petals, facing upwards. Its pericarp in the middle has the shape of the "wavy peaks" (the centre of the eyebrows). In its centre, one should meditate on the ascending power, the supreme void. There, in fact, lies the seat of the "complete mount," the instrument for the fulfilment of all desires.

Another enumeration of nine chakras is that mentioned by John Woodroffe in *Tantra of the Great Liberation* (Mahāvirvāna Tantra), introduction, where he mentions that between the ājna chakra (the chakra between the eyebrows) and the sahasrāra chakra (the thousand-petaled chakra), there are two chakras: the manas

chakra and the secret soma chakra, in addition to the seven known chakras, thus totalling nine chakras (WOODROFFE, 1972: lxiii).

I.8.2. The Ten-Chakra Version

S. N. Dasgupta (1975: vol. II, 355-6) listed and identified the following chakras, in addition to the seven conventional ones, mentioning their identification with nerve plexuses and their locations:

1. Ādhāra chakra (sacrococcygeal plexus)
2. Swādhishthāna chakra (sacral plexus)
3. Manipūra chakra (lumbar plexus)
4. Anāhata chakra or vishudha chakra (cardiac plexus)[10]
5. Bhāratī srhāna (laryngeal plexus)
6. Lalanā chakra (opposite the uvula)
7. Ājnā chakra (between the eyebrows)
8. Manas chakra (within the ājnā chakra)
9. Soma chakra (in the middle of the brain)
10. Sahasrāra chakra (the dwelling place of the soul).

I.8.3. The Twelve Chakra Version

This is a configuration mentioned in the Vijnānabhirava (verse 30), a text from the Kashmiri Shaivism tradition, in which "twelve superior energy centres" are mentioned. In a long note, the translator names and locates each of these twelve centres; note that the names and locations are both coincident and divergent from conventional configurations:

1. Janmāgra, also known as janmādhāra or janmasthāna, is at the level of the genital organ, since the genital organ is related to janma or the birth of individuals.
2. Mūla, also known as mūlādhāra, is in the centre of the spinal

10 Interestingly, he identified the anāhata chakra (heart chakra) with the vishuddhi chakra (throat chakra).

column in the region below the genitals.
3. Kanda, a bulbous and tuberous root, so called because it is an intertwining of many nerves.
4. Nābhi or navel. This corresponds to the manipura chakra in the navel region.
5. Hrdaya or heart
6. Kantha (throat) is located in the cavity at the base of the throat.
7. Tālu, in the palate region.
8. Bhrūmadhya in the region between the eyebrows
9. Lalāta on the forehead
10. Brahmarandhra on the top of the head
11. Shakti an energy that is not a constituent of the body
12. Vyāpinī the energy that appears when the kundalini finishes its journey (SINGH, 1993: 26-7).

The enumerations and descriptions may differ even within the same tradition; note that the description above does not exactly coincide with the descriptions of Lilian Silburn, also based on the Kashmir Shaivism tradition (see: SILBURN, 1988: 28-31).

I.8.4. The Thirteen Chakra Version

A thirteen chakra version is outlined by S. S. Goswami (1999: figure 27) with the corresponding locations:
1. Muladhara chakra (at the base of the spine)
2. Swadhishtana chakra (in the genital region)
3. Manipura chakra (in the navel region)
4. Anahata chakra (in the chest region)
5. Vishuddha chakra (in the throat region)
6. Talu chakra (in the nose region)
7. Ajna chakra (between the eyebrows)
8. Manas chakra (in the forehead region)
9. Hindu chakra (in the forehead region)
10. Nirvana chakra (at the top of the head)
11. Visarga chakra (above the head)

12. Guru chakra (above the head)
13. Sahasrara chakra (above the head)

According to yogis, contact with the chakras is an experience that leads to another world, so the descriptions are always very mythological and fantastical. See below an excerpt from a description of the interior of the mūlādhāra chakra, which has four petals and "inside the pericarp of the lotus, is the beautiful earth region,[11] which is quadrangular and surrounded by seven seas. There is a triangle above the square region, which is the abode of the desire for love. Inside the square region is the bija (seed mantra) 'Lam', which is in the form of the god Indra, riding the king of elephants. Inside the triangle is the great lord Shiva in the form of a linga..." (GOSWAMI, 1999: 174). For a critical investigator, it is intriguing to note that the chakras (padmas-lotus) are in the subtle body, but the descriptions of their appearances, their nature, and their properties invariably coincide with physical appearances and properties; that is, subtle things possess form (triangular, square, in the shape of a linga), importance (great lord Shiva), location (interior), beauty (the beautiful region of the earth), geometry (circumcised, triangular, square), sound (bija), density (earth), liquidity (seas), number (four petals, seven seas), feeling (desire for love), overlapping (mounted), geography (region), social hierarchy (king of elephants), and in other descriptions, we find mentions of brightness, distance, colour, emptiness, darkness, etc. For the ancient speculators, it was only possible to create their theories and speculations about the subtle world from what was then known in the physical world. For example, it was not possible for them to create a theory about the universe taking gravity into account, nor about the expansion of the universe (distancing of galaxies), since these phenomena were not then known.

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11 It refers to earth as the primary element of nature पृथिवी-prthivī, that is, one of the महाभूतानि-mahābhūtāni (great elements), and not to the planet Earth (भूमि-bhūmi).

Another description of the mūlādhāra chakra, even more fanciful than the one above, appears in verses 4 to 13, with commentary, of the Satchakra Nirūpana (WOODROFFE, 1964: 330-55). Observe the transformative power and utopian achievements, by the practitioner, with mere meditation on the kundalini in this chakra (at the base of the spine between the genitals and the anus), in verse 13, without the need for prior specific training and prior education. "By meditating on it (kundalini), which shines within the mulachakra with the brilliance of ten million suns, a man becomes a master of the word and a king among men, and an adept of all kinds of knowledge. He becomes free from all diseases, and his inner spirit becomes full of great joy" (Ibid., 354). Now, there is no example of someone who achieved these accomplishments merely by meditating on kundalini, since it is not possible to become a "master of the word" without prior training in oratory, nor to become a "king" without descending from and being the legitimate heir of a royal family or, otherwise, seising the throne by force, as well as an "adept of all kinds of knowledge" without prior schooling and becoming "free from all diseases" without disease prevention work through vaccination, healthy eating, preventive medicine, and strengthening the body. No one has ever achieved these utopian accomplishments through a simple magic trick, as it requires a great deal of effort and practice. These utopias only appear in mythological accounts and religious books; outside of these accounts, reality is quite different.

Regarding the chakras, N. N. Bhattacharyya commented: "These descriptions of the chakras offer a variety of ideas, which at the current stage of our knowledge it is impossible to comprehend their original meaning, despite the attempts of writers and commentators to create imaginary interpretations for them (the chakras). From a historical point of view, it can be suggested that the padmas or chakras were originally conceived in terms of human anatomy for the purpose of physiological study. Consequently, the chakras, beginning with the mūlādhāra and ascending, were identified with the following nerve plexuses: the sacral, the prostatic,

the epigastric, the cardiac, the laryngeal, the cavernous, and the sahasrāra with the spinal cord. At a subsequent stage, in accordance with the tantric idea that the human body is the microcosm of the universe, physical objects, such as the sun, the moon, mountains, rivers, etc., were connected with the chakras..." (BHATTACHARYYA, 1987) 324). Ken Dongart also observed: "White's study of the historical emergence of the subtle body and its structure in a variety of Hindu and Buddhist texts, dating from the 8th to the 12th centuries CE, shows, contrary to the impression created by Woodruff's widely read work, *The Serpent Power*, that the chakra system presented by Woodroffe as normative is, in fact, the result of a complex historical evolution expressing only one of many possible configurations. Perhaps due to the power of the illustrations of this configuration in Woodruff's work, many scholars have considered it a configuration of an eternal and immutable system, as old as yoga itself, grounded, perhaps, in the yogi's actual experience with the subtle body. In early discussions of chakras, we find references to only four. Some ancient sources speak of five. Nor are they necessarily called chakras. In fact, there is no standard chakra system: each school had its own chakra system, which developed over time. The term chakra, according to White, is applied to them (the chakras) by..." The first time this is mentioned is in the Kaulajñānanirṇaya,[12] which enumerates seven chakras, as well as an expanded list of eleven" (DONGART, 2016: 30-1). Among the many versions, that of Kashmir Shaivism seems to be the most different from the others; to learn more about it, see SILBURN, 1988: 25-35 and DONGART, 2016: 30-7).

With so many oversights, so many inaccuracies, and so many divergences in sacred texts and studies, since each tradition possessed its own system, it is frequently possible to find, among

12 A Tantric work from the 9th century CE, or from the 11th and 12th centuries CE according to Bagchi, authored by Matsyendranatha, founder of one of the schools of the Kaula tradition called Yogini Kaula.

contemporary interpreters, even contradictions within the same sentence: "...Kundalini is formless, splendid, and remains in three and a half turns in the Muladhara triangle..." (GOSWAMI, 1999: 85). Well, in something "formless", it is not possible to perceive whether this something possesses "three and a half turns." The classical texts themselves acknowledge the plurality of versions; the Nārada Pancarātram (Night 5, chap. XI.06) recognises the problem: "Different schools provide different opinions and mention different nerves (nādis) and centres (chakras)... (VIJNANANDA, 1997: 318). To address all the discrepancies between the descriptions of the chakras, the nadis, and the kundalini would make this study far too lengthy. The tradition that deals most extensively with this subject is the Tantric tradition; consequently, the discrepancies are numerous. For example, Shyam Sundar Goswami described thirteen different tantric chakra systems (see: GOSWAMI, 1999: 173-81), where the reader can compare the similarities and differences in the descriptions of the chakras, and this is not all, since the differences increase when compared with the accounts in the Upanishads, the Puranas, the texts of the Raja and Hatha Yoga traditions, as well as the Kashmiri Shaivism system. Even more so when compared with the descriptions of contemporary authors, such as Gopi Krishna, Charles W. Leadbeater,[13] Rajneesh-Osho,[14] and others, who

13 To learn about criticisms of Charles W. Leadbeater's versions of the chakras and kundalini, see GHERWAL, 1930: 146-52 and WOODROFFE, 1964: 06-18. These visions show differences with traditional Hindu accounts; however, it is important to note that even among different Hindu traditions, descriptions of the chakras and kundalini are not consistent, as shown above.

14 Unlike traditional methods of awakening kundalini, Osho's Kundalini Meditation is active, collective, and divided into 4 stages: 1st Tremor (the practitioner remains trembling to the sound of music); 2nd Dance (the practitioner dances in their own way to the music, the more uninhibited the better); 3rd Standing or sitting still to feel the body; and 4th Relaxation (the culmination of all previous movements). This meditation exercise seems more like a group therapy session than a

introduced innovations and claim to have experienced the vision of these chakras and/or the awakening of kundalini.

Even more obscene are the interpretations that kundalini is awakened much more quickly when practiced through maithuna (sexual intercourse). That is, in pairs, instead of individual practice with preparatory exercises, based on the claim that through the couples' method, kundalini rises directly from the muladhara (the chakra at the base of the spine) to the sahasrara (at the top of the head), without the obstructions, slowness, and interruptions it experiences when passing through each of the intermediate chakras. Furthermore, the couple's combined effort during sexual intercourse (maithuna) accelerates the ascent of kundalini compared to individual practice, since the energies of Shiva and Shakti are already combined in joint practice, whereas in individual practice, the two energies still need to be unified.[15] In short, a method of kundalini ascent "without steps".

Another method, requiring little effort but not as much pleasure as the one described above, which dispenses with the arduous prior exercises, is taught by the Amanda Marga religion (Path of Bliss), through the transference of a powerful mantra, the siddha mantra, which the guru passes on to the disciple at the moment of initiation. Observe the ease of this method compared to other traditional methods. The liberation of kundalini can be achieved by a single touch of a siddha mantra, an "effective" mantra. A mantra is a collection of sound waves that can produce a powerful resonance, or sympathetic vibration, in the mind. Tantric scriptures say: "inconceivable is the power of the mantra." Mantra is, in fact, the very basis of the science of Tantra; it means "that which liberates the mind" from the bonds of Prakriti and returns it to the state of pure Consciousness ("man" – "mind"; "tra" – "to liberate"). A siddha mantra is one that has been invested with spiritual power by a true guru. In the process of investing a mantra, the guru raises his own

traditional individual practice of activating kundalini energy.

15 demystifyingkundalini.com

kundalini to the highest point, sahasrara chakra, and then repeats the mantra, conferring intense spiritual energy upon it. Then he lowers his kundalini again. When the mantra is recited correctly in the initiation process, spoken directly from master to disciple, the vibration of the phrase or word will in fact "reach" the dormant spiritual source within the individual and awaken it. For this reason, mantras learned from books or other sources (even on the internet!) will not have the power of a siddha mantra. The scriptures say: "Only the mantra that is received by the grace of the guru can give full realisation" (Kularnava Tantra). From the moment the mantra is recited, the more frequently and intensely the spiritual aspirant repeats it, the more the kundalini rises under its vibrational impact. But when the repetition ceases, it returns to sleep. If the mental repetition of the siddha mantra continues all the time, day and night, the kundalini remains perpetually awake. When the kundalini is asleep, the individual remains in one of three states: waking, dreaming, or dreamless sleep. Only when the kundalini is awake can the individual enter the fourth state, turiya, the state of non-duality.[16] That is, a comfortable method of awakening the kundalini. On these confessional websites, historical exaggerations are frequent, with the intention of exalting the antiquity of their own doctrine, since many religious people think that "the older a doctrine, the wiser it is", instead of obsolete: "The science of kundalini is thousands of years old. It is an essential part of Tantra, the spiritual science that was systematised seven thousand years ago by Lord Sadashiva". First of all, kundalini is not a science, let alone one that is "seven thousand years old". Seven thousand years ago corresponds to the transition from the Neolithic Age (approximately 10,000 to 5,000 BCE) to the Bronze Age (3,300 to 1200 BCE), therefore there was no alphabetic writing, literature, terminology, etc., let alone science.

I.9. The Indispensable Belief in an Occult Physiology

16 anandamarga.org/articles/kundalinii/

The recognition, by the beginner or student, of the existence of chakras (energy centres), nādīs (veins conducting vital energy), prāna (vital energy), sushumnā (channel within the spinal cord), and kundalinī (divine energy) necessarily depends on the student's predisposition to believe in the occult world, especially in the existence of a subtle body (सूक्ष्म शरीर – sūkshma sharīra), since these are factors that are not in the physical world, but rather in the subtle world and the subtle body, whose perception depends on the awakening of clairvoyance, that is, the third eye. Also, if this clairvoyance is possible, the belief that the experiences of these seers are correct, therefore reliable, that is, what they experienced and perceived is real, but that these experiences are still veiled from the beginner's perception. So, without belief in a hidden physiology, it is not even possible to begin the deferential study, much less the practice, of awakening kundalini; in short, the beginner has to believe.

Swami Sivananda explained the subtle body (sukshma sharira) as follows: "The physical body is shaped according to the nature of the astral body. The physical body is something like water, with a dense form (sthula). When water is heated, the vapour corresponds to the astral body. Similarly, the astral body or sukshma sharira is within the dense or physical body. The dense body cannot do anything without the astral body. Each dense centre of the body has its astral centre. A clear understanding of the dense body is of utmost importance, as this Yoga deals with the centre of the astral body" (SIVANANDA, 1980: 33). Well, materially comparing the dense body and the subtle body to water and vapour respectively is a very primary illustrative way of exemplifying, appropriate for teaching a child; the comparisons are not scientific in nature, therefore they do not convince someone scientifically enlightened, as it is not sufficient to prove that the subtle body (sukshma sharira) exists.

Therefore, if the supernatural world does not exist, then neither will the subtle body, and consequently, neither will kundalini,

chakras, nadis, prana, and sushumna, since it is necessary to believe in the existence of a hidden physiology. Many efforts have been made by religions and parapsychology to prove the existence of the supernatural world and the subtle body; however, the results of these investigations have not received scientific and academic recognition, because for the scientific community, these experiments are pseudosciences, as they do not meet the rigour of current scientific methodology.

I.10. The Debt of Tantric and Yogic Speculations to Ancient Medical Speculations

The earliest probable mentions of sushumna, that is, the nādī (vein) of kundalini, along with the nādīs (veins) of the heart, appear in a verse from some of the oldest Upanishads, namely, in the Chandogya Upanishad VIII.06.06 (7th-6th centuries BCE) and in the Katha Upanishad II.03.16 (5th-1st centuries BCE):

तदेष श्लोकः । शतं चैका च हृदयस्य नाड्यस्तासां मूर्धानमभिनिःसृतैका । तयोर्ध्वमायन्नमृतत्वमेति विष्वङ्ङन्या उत्क्रमणे भवन्त्युत्क्रमणे भवन्ति ॥
tadesha slokah: shatam chaika cha hrdayasya nandyas / tasam murdhanamabhinihsrtaika /
Tayordhwamayannamrtatwameti / vishwannanya utkramane bhavanti
There is this verse: one hundred and one (are) the veins (nādīs) of the heart.
One of them leads to the crown of the head
Ascending through it, he attains immortality
The rest (of the veins), in their ascent, spread in all directions (Chandogya Upanishad VIII.06.06 and Katha Upanishad II.03.16 - OLIVELLE, 1998: 279 and 403).

The phrases तासां मूर्धानमभिनिःसृतैका तयोर्ध्वमायन्नमृतत्वमेति - tasam murdhanamabhinihsrtaika tayordhwamayannamrtatwameti – “One of them leads to the crown of the head. Ascending through it,

he attains immortality," strongly suggest that it is referring to the nādī (vein) sushumna, through which the kundalini energy flows after its awakening. This verse presents one of the oldest references to speculations about the nādīs (veins), in the sense of conductors of subtle energy, and about kundalini, as energy that leads to immortality, the latter being the main vein (mahānādī), which conducts vital energy (prāna) to different parts of the body. However, despite being referred to as veins, which reminds us of blood vessels, these energy-conducting channels (nādis) are also mentioned as conductors of bodily fluids, such as blood (rakta), bile (pitta), air (vāta), and kapha (phlegm). Thus, in the oldest texts we find mentions of nādī as conductors of physical substances or as conductors of subtle energies. The Prashna Upanishad III.06 and 07 seems to refer to the nādīs as channels of vital energies: "... There are one hundred and one veins (nādīs) in the body. Each of them branches into one hundred more, and each of these branches into seventy-two thousand more. Through these veins (nādīs), the Vyāna moves" (06). "Now, Udāna rises with one of them and leads a person to a good world" (07). In other ancient passages, the nādīs (veins) are mentioned as clearly referring to the blood-conducting veins, therefore, in a poetic way, when dealing with surgery, the Athārva Veda I.17.01-04 describes:

"Let the blood vessels (hirā),[17] which circulate the blood (lohita)[18] in the body, stop, for they have lost their vigour, like sisters who have lost their brightness for lack of their brothers" (01).

"Stop, O inferior. Stop, O superior. Stop, O middle, stop you too. The smallest has stopped. And let the great blood vessel stop too" (02).

"Of the hundreds of arteries (dhamanis) and thousands of veins (hirās), let the middle ones stop, and then, in the end, let them all stop together" (03).

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17 A word sometimes used as a synonym for nādī.

18 लोहितः – lohitah is the color red, but sometimes it appears in the sense of blood; the most commonly used Sanskrit word for blood is रक्त – rakta.

"Between you and above you lies a great arch, abundant in blood, stopped by the presence of sediment". "May everyone work in peace (after treatment)" (04).

So, in the oldest Upanishads, references to nādīs (नाढ्यः - veins) sometimes refer to the conduction of blood (रक्त – rakta), other fluids and phlegm, or as conductors of vital energies (प्राणाः – prānah), as in the passage from Chandogya Upanishad II.01.19, where the nādīs are conductors of blood from the heart: "... There are seventy-two thousand veins (नाढ्यः – nādyah) called hitā (हिता) that run from the heart हृदय hrdaya) to the pericardium (पुरीतत् – purītat)"[19] (OLIVELLE, 1998: 62 and 63). Also, Chandogya Upanisahd IV.03.20: "Now, he has these veins (nādīs) called hitās. They are as thin as a hair divided into a thousand parts and are filled with (fluid) white, blue, orange, green and red...." (OLIVELLE, 1998: 114 and 115). And in the same Upanishad (IX.04.8-9): "There is an ancient path extremely thin and extending far (...) Through it, they ascend to the celestial world (...) In it are white, blue, they say, orange, green and red." (Ibid: 122 and 123). Shakarāchārya commented on this passage thus: "Some aspirants speak of it (the path) as white, pure or liquid, others as blue, others as gray, green or red, according to their experiences. In reality, however, they are the Sushumnā nerves and others, filled with phlegm, and other liquids, for they have already been mentioned in the words 'filled with white, blue, gray, etc.'" (MĀDHAVĀNANDA, 1934: 509-10). Another interpreter of Shankrāchārya's Bhāshya, Ānandagiri, explained it thus: "those hirās (veins) that carry vāta (air) are pink (aruna), those that carry pitta (bile) are blue, those that carry rakta (blood) are red, and those that carry shleshman (mucus) are white" (DASGUPTA, 1975: 344n4). The Mundaka Upanishad II.02.06 mentions the nādīs in the following way: Where the veins (nādīs) join, like the spokes on the axle of a chariot wheel" (OLIVELLE, 1998: 446 and 447). This

19 The remainder of the translation of this paragraph is problematic and controversial. Some translate "up to the pericardium" as "for the whole body," according to Shankaracharya's interpretation.

passage may be referring to nerve plexuses, perhaps already known to ancient Hindu physiology.

Now, a more explicit and extensive mention of the nādī and the sushumnā, which reminds us of the awakening of Kundalinī, appears in a later upanishad, the Maitri Upanishad: “The vein (nādī) called sushumnā, which ascends (from the heart to the bhramarandhra), serving as the passage of prāna, is divided within the palate. Through this vein, when it is united by prāna (suspended breath), by the sacred syllable OM and by the mind (absorbed in contemplation), it (prāna) moves upwards...” (VI.21 – MÜLLER, 1995: part II, 320). Later, Upanishads were composed specifically on kundalini, such as the Yogakundalini Upanishad (Aiyar, 2003: 199-208 and 316-22; AYYANGAR, 1952: 251-78).[20]

These seminal physiological notions were later developed and systematized by the Tantra and Ayurveda (Vedic Medicine) systems. A surprising fact, known to few historians in the West, is that the Indians possessed a highly developed medical science in antiquity, when compared to other contemporary peoples (for further information, see: DASGUPTA, 1975: vol. II, 273-436). Therefore, regarding the importance of ancient Indian medicine (Ayurveda), Surendranath. Dasgupta commented: “...medicine was the most important of the physical sciences developed in ancient India; it was directly and intimately connected with the Samkhya and Vaisheshika physics, and was probably the origin of the logical speculations subsequently codified in the Nyaya Sutras. The literature also contains many other interesting ethical instructions and reveals a view of life that differs considerably from that found in works on philosophy; it also deals with many other interesting details that shed much light on the scholastic methods of Indian thinkers. Furthermore, those who are aware of the great importance of the

20 Since we do not yet have critical editions of the Upanishads, except for a few passages here and there, obtained through the comparison of only a few manuscripts, therefore all the quotations above, as well as those that follow, were taken from vulgate (uncritical) editions.

physiology and anatomy of Hatha Yoga and Tantra in relation to some of the Yoga practices of those schools will undoubtedly be interested in knowing, for comparison or contrast, the speculations of the medical schools on many points of interest. Their speculations regarding embryology, heredity, and other points of general investigation will prove interesting even to a student of pure philosophy" (DASGUPTA, 1975: vol. II, 273). Although these works have undergone many updates, additions, and revisions, reading the basic books of the Ayurveda system, the Charaka Samhita and the Sushruta Samhita, impresses not only the historian of ideas but also the modern physician, who will be surprised by the knowledge achieved by the Indians even in Antiquity, since, given their detailed knowledge of physiology, anatomy, and surgery, the practice of dissecting corpses certainly began early in India. In short, therefore, it is not absurd to conclude that Tantric ideas about chakras, nādīs, prānas, idā, pingalā, sushumnā, kundalinī, etc., owe much to the ancient medical speculations of the Indians, from which Tantric speculators drew inspiration for a physiological reworking and the consequent adaptation to a soteriological doctrine.

Etymologically, nādī means the tubular stalk of any plant. Over time, everything in the body with a tubular shape came to be called nādī. Thus, strictly speaking, according to Ayurvedic medicine, nādīs are not only channels for conducting vital energy (prāna), as almost all yoga practitioners know. Nādīs also conduct rakta (blood). Some authors have translated nādīs as 'nerves', perhaps presuming that these tubes conducted nervous energy,[21] or due to a supposed similarity, or even an identification, with the nervous system. Later, this theory of nādīs received a theoretical and systematic elaboration

21 The reader will also find the word nādī translated as "river," the reason being an apparent orthographic similarity between नाडी – nādī (tubular stalk, vein, energy channel) and नदी – nadī (river, stream of water). In ancient medical literature, नाडी (nādī) meant any tubular organ of the body, such as artery, trachea, vein, etc.; in other contexts it can mean flute, tube, or reed.

in medical and tantric literature that, for the levels of knowledge of physiology and anatomy of the time, was extraordinary, since the practice of dissecting corpses began early in India.

I.11. Pejorative Interpretations of Kundalini

Also, to understand the yogic themes discussed and, in some passages, even mocked by George I. Gurdjieff (c. 1872-1949), a Greek-Armenian esotericist very active in the first half of the 20th century, it is necessary to always keep in mind the influence of the Islamic rivalry with Hinduism, which he absorbed from his contacts with Sufism. Kundalini energy, so sacred to yogis and tantrics, was understood as an organ, rather than a latent energy, and was therefore mockingly nicknamed "Kundabuffer," a term coined by Gurdjieff, which combines the first letters of the term Kundalini with the English word "buffer" (shock absorber, bumper), so that we can conjecture that the intention was to convey the idea that this Kundabuffer organ was installed in man in order to cushion or neutralise the shocks so necessary for man's spiritual awakening, a central theme in the teachings and practices of the Fourth Way, as narrated in his satirical book *Beelzebub's Tales to his Grandson: An Objectively Impartial Criticism of the Life of Man.*

Regarding the installation of the Kundabuffer organ in humans in the distant past, Gurdjieff satirised it as follows: “…the High Commission then decided, among other things, provisionally, to implant in the ordinary lives of three-brained beings a special organ with such a property that, firstly, they would perceive reality upside down and, secondly, that each repeated impression from the outside would crystallise in them the impression that would produce factors to evoke in them sensations of pleasure and enjoyment. (…) …they made it grow in the three-brained beings, in a special way, at the base of their spinal columns, at the root of their tail, which they also, at that time, still possessed. (…) …And this something they then initially called ‘the Kundabuffer organ’. (…) …you should know about

the various manifestations of the three-brained beings of that planet, not only during the period when this Kundabuffer organ existed in their lives, but also during the periods later, when, although this impressive organ and its properties had been destroyed in them, nevertheless, due to many things, the consequences of its causes had begun to crystallise in their lives" (Gurdjieff, 1973: vol. I, 88-9).

Using a metaphor about a fictional leader and an imaginary community, Gurdjieff added further mockery to the Kundabuffer, attributing nefarious consequences to those endowed with this evil organ: "But, as I have already said, the aforementioned consequences of the Kundabuffer organ, which had at that time been entirely crystallised in some of his subjects, he had to employ all possible kinds of threats and risks, in order to extract from each one everything that was demanded for the greatness of the community entrusted to him. (...). The subjects of that community, especially, of course, those in whom the sad consequences of the Kundabuffer organ's properties had already been crystallised, not only ceased to pay into the treasury of King Appolis what was demanded, but they themselves gradually began to take back what had been deposited before" (Ibid: 114). First, it is necessary to clarify that Kundabuffer (Kundalinī) is inappropriately called an "organ," because for yogis, Kundalinī is a latent energy in the organism and not an "organ," as will be analysed later.

It would be lengthy to mention all the metaphorical mockery that Gurdjieff uttered about Kundalinī (Kundabuffer) in his extensive work mentioned above, therefore, we will limit ourselves to the more serious and didactic approach to the subject found in *In Search of the Miraculous: Fragments of an Unknown Teaching,* a collection of lectures by G. I. Gurdjieff compiled by his important disciple, later a dissident of the institution, but not of the ideas and practices, P. D. Ouspensky. In a more didactic way, he expressed his opinion on Kundalini as follows: "In so-called 'occult' literature, you have probably already encountered the expression 'kundalini,' 'the fire of kundalini,' or 'the serpent of kundalini.' This expression is frequently

used to designate some kind of strange force, which is present in man and which can be awakened. But none of the known theories provides the correct explanation of the kundalini force. Sometimes it is related to sex, to sexual energy, that is, to the idea of the possibility of using sexual energy for other purposes. This last point is entirely wrong, because kundalini can be in anything. And, above all, kundalini is not something desirable or useful for the development of man. It is very curious how these occultists have seised the word from somewhere, but have completely altered its meaning, and from something terrible and very dangerous, they have transformed it into something hopeful and desired as something blessed."

"In reality, kundalini is the power of imagination, the power of fantasy, which takes the place of the real function. When a man dreams instead of acting, when his dreams take the place of reality, when a man imagines himself to be an eagle, a lion, or a magician, it is the force of kundalini acting in him. Kundalini can act in all (psychological) centres, and with its help all centres can be satisfied with imagination instead of reality. A sheep that considers itself a lion or a magician lives under the power of kundalini. Kundalini is a force placed in men in order to keep them in their current state. (…) Kundalini is a force that keeps them in a hypnotic state. Awakening for man means being de-hypnotised" (Ouspensky, 1957: 220).

Moreover, another complicating factor, in addition to the divergences in the original Sanskrit texts, is the discrepancy in translations into contemporary languages. Some translators seek to use modern terms and, sometimes, scientific language, intending to give a contemporary and scientific character to the ancient themes of Yoga. Most blatantly, we find comparisons and correspondences between current physiological knowledge about the nervous system and the imaginative supernatural physiology of Yoga in translations of ancient works composed in Antiquity or the Middle Ages. The hasty use of contemporary terms leads some translators to commit anachronisms in their translations, such as mentions of ideas and

objects that did not exist in the past. For example, the translation of the ancient Sanskrit term विद्या (vidyā) as "Science" is problematic, given the transformations that the concept of science has undergone over the centuries. This is why books and articles with titles such as "The Science of Yoga," "The Science of Prānayāma," etc., abound. Thus, what is understood by science today is very different from the idea of science held by the ancient Hindus. By translating *vidyā* as science, the reader or listener is led to believe that the knowledge of the primitive speculations of the ancient Hindus was similar to that of modern science, with all its countless subsequent discoveries, all the current technological instrumentation, the same sophisticated laboratories, the same methodological rigour, etc. Therefore, the modern reader is induced to believe that the ancient Hindus knew about the Big Bang, black holes, DNA, Quantum Mechanics, stem cells, dark energy, the Genome, the Theory of Relativity, etc., especially when the translation "Science of the Whole" is used, which is very frequent in Hindu and esoteric books.

Another problematic example is the frequent use of the term "Philosophy" to translate or interpret what, according to current understanding, is pure speculation of the ancients. Therefore, many translators and interpreters of ancient Hindu texts confuse "Philosophy" with "Speculation," generally when translating the term दर्शन (Darshana), which literally means "vision" or "perception," therefore better translated as "worldview" resulting from speculation and conjecture. Traditionally, the term is attributed to the Six Hindu Speculative Systems (Nyāya, Vaisheshika, Sāmkhya, Yoga, Mīmānsa, and Vedānta). Thus, it is common to find books and articles titled "Indian Philosophy," which would be more accurately called "Indian Speculation," since they contain very little debate, and debate is inseparable from Philosophy. We know that Philosophy is a practice that has undergone many changes in its concept throughout the centuries; it was one way in Classical Greece, different in the Middle Ages, distinct in the Modern Age, and even more different in the Contemporary Age. Therefore, current Philosophy is very

different from what the ancient Hindus speculated. Finally, with these anachronistic translations, interpretations inevitably diverge from one author to another, as well as from one instructor to another.

Returning to the subject of Kundalini, and attempting to extract from what is most consensual among authors and practitioners, the identification of Kundalini with imagination, as pointed out by Gurdjieff, is non existent in Tantric and Yoga texts, as we shall see, because Kundalini is, strictly speaking, the opposite of imagination or daydreaming, since absolute control and total silence of thoughts are necessary to awaken it: He said, “In reality, kundalini is the power of imagination, the power of fantasy, which takes the place of the real function. When a man dreams instead of acting, when his dreams take the place of reality, when a man imagines himself to be an eagle, a lion, or a magician, it is the force of kundalini acting in him.” And further on, a comical example: “a sheep that considers itself a lion or a magician lives under the power of kundalini.” Now, a sheep that imagines itself to be a lion or a magician would need a human brain, with a developed frontal cortex, since a sheep's brain does not possess this developed cerebral region. What Gurdjieff did was confuse Kundalini with the association of prana with chitta, which causes चित्तवृत्ति – chitta vrtti (mental modification, diversion of attention, mental operation or transformation of thought). Patanjali defined Yoga as follows: योगश्चित्तवृत्तिनिरोधः – yogashchittavrttinirodhah (Yoga Sūtra, I.02), that is, Yoga is the “suppression of mental modifications,” in other words, the achievement of total concentration in order to reach समाधि – samādhi (trance). Gurdjieff confused the inseparable association between the energy prāna and chitta (mind). The Hatha Yoga Pradipika (II.02) states that “when prana moves, chitta (mental force) moves. When prana is still, chitta also remains still. Through this (the firmness of prana), the yogi attains firmness and thus retains vāyu (air).” Swami Muktibodhānanda explained it this way: “Prāna and the mind are intrinsically linked. The movement of one means the movement of the other” (Muktibodhānanda, 2006: 150). B. K. S.

Iyengar wrote: “Chitta and prāna are in constant association. Where chitta exists, there also prāna is present, and where prāna is, chitta is also present. The chitta (mind) is like a vehicle propelled by two powerful forces, prāna and vāsanā (desires). It (the mind) moves in the direction of the more powerful force. (...). If breath control (prāna) prevails, then desires are controlled, the senses are kept under control, and the mind is calmed” (IYENGARr, 1993: 13). In other words, when prana (breath) is agitated, for example, by irregular breathing or excessive physical exertion, the mind also becomes agitated, and when the mind is agitated, for example, for some emotional or nervous reason, prana (breath) also becomes agitated. When we sleep, the breathing rate slows considerably. And Gurdjieff also said, "when a man imagines himself to be an eagle, a lion, or a magician, it is the kundalini force acting within him." More precisely, this is not imagination, but rather delusion. Imagination is not exactly the same as delusion, because imagination is a more comprehensive experience and has a beneficial side, namely, creativity. There is no creativity without imagination; one needs the other. In contrast, delusion is "the erroneous conviction based on false conclusions drawn from data of external reality." This experience may include imagination, but the experience of imagination is more comprehensive than the experience of delusion. Someone who creates a truly remarkable and useful invention needed imagination to create it, but didn't need to be delusional. In short, as yogis teach, to awaken Kundalini, it is absolutely necessary to suppress the movement of the mind (chittavrtti) and, consequently, the imagination; therefore, the opposite of what Gurdjieff "imagined."

I.12. Suicide Through the Awakening of Kundalini

Even goddesses commit suicide. The most well-known suicide in Hindu mythological literature is the desire of the goddess Sati, one of the wives of the god Shiva, to dispose of her own body after receiving a humiliation from the wicked Daksha. The suicide

was carried out with the fire resulting from the awakening of kundalini. The episode is narrated in the Shiva Purana (Rudrasamhitā, XXX.4-08) and in the Bhagavata Purana (IV.04.25-7). Below is a reproduction of this episode as narrated in the Shiva Purana:

Verses 4-5. Keeping her face steady, she (Sati) balanced the winds (breaths) prana and apana. She then raised the udāna wind (breath) from the navel region, fixed it in the heart region, brought it to the throat, and finally fixed it in the region between the eyebrows.

Verses 6-7. She wished to discard her body due to her hatred for Daksha. She wished to burn the body and retain the pure wind (breath) by yogic means. In this posture, she remembered the feet of her lord and nothing else.

Verse 8. Her body, freed from her sins, entered the yogic fire and was reduced to ashes (...), according to her own will.

Observe the ascent of kundalini energy through the chakras of the navel (manipura), the heart (anahata), the throat (vishuda), and finally the one between the eyebrows (ajna). The Bhagavata Purana IV, 04.27 added: "...and his body was soon engulfed in flames by the fire produced by his samadhi (yogic concentration)."

This mythological episode inspired the creation of one of the most repugnant sacrifices in Hinduism, known as the "Sacrifice of Sati," where the widow throws herself onto the funeral pyre of her recently deceased husband, committing suicide, although the motivation and circumstances are different. During the British occupation of India, the British colonisers were shocked by this perverse sacrifice. Currently, this practice is prohibited in India, although a few instances of non-compliance have occurred in recent decades, and when they do, they are reported in almost every newspaper in the world (for further information, see: BOTELHO, 2015).

I.13. Obscene Auxiliary Practices in the Awakening of Kundalini

According to some Hatha Yoga and Tantra texts, internal energy can be activated not only through modest practices such as pranayama, mantra, pratyahara, dhyana, samadhi, and mudras, but also through shameless and unhealthy practices. In the Hatha Yoga tradition, the strange sexual practice (maithuna), known as Vajrolimudra, is prescribed as one of the mudras that assist in the awakening of kundalini. Hatharatnāvalī II.76 mentions that "The awakening of kundalī, the purification of all nadīs and the balance of apāna and prāna is done through Vajroli (mudrā)" (REDDY, 1982: 46). Therefore, this sexual practice is listed as one of the mudrās.

This strange sexual practice, strange because it is not a common sexual practice with only vaginal intercourse (maithuna), but rather adapted for Hathayoga exercises, is described in Hathayogapradipika III.84-91, in Shivasamhitā IV.78-92 and more extensively in Hatharatnavalī II.74-105. Hence the importance of this strange practice in the discipline to awaken kundalinī. The descriptions in these texts are not entirely clear; some passages are obscure and others incomplete, due to the secret nature of this practice, whose instruction is given personally from guru to disciple. However, even without this personal instruction, it is possible to perceive the obscene, torturous, and unhealthy character of the publications that include Vajroli. Therefore, because of its obscenity, some editions and translations omit this passage, claiming it is a secret instruction. Even so, with the reproductions below of the description of this obscene and unhealthy practice (mudrā), the reader can judge whether it deserves to be kept secret or discarded because of its obscenity.

Vajroli (वज्रोलि) or vajrolimudrā (वज्रोलिमुद्रा) refers to the unusual practice of urethral suction in order to suck out the combined sexual fluids, that is, the semen (bindu) of men and menstrual fluid (rajas) of women, during sexual intercourse (maithuna), a practice that is understood to be beneficial for the spiritual progress of both

male and female practitioners.[22] The term derives from the Sanskrit noun vajra (ray). Some contemporary interpreters explain that, in the context of Hatha Yoga, the term refers to the vajra nādī, a channel located inside the spinal column, more specifically, inside the sushumnā nādī, which conducts a vital energy that controls the urogenital system (the system that controls the urinary and reproductive systems). However, this explanation is not yet scientifically substantiated, since we have no proof that these channels and energies exist, as we will discuss later. Other repugnant practices associated with this, also described in the books of the Hatha Yoga tradition, are the practices of drinking one's own urine, eating one's own saliva as food, sucking one's own semen that flows from a woman's vagina after penetration, and those who consume dhātus (body elements and secretions): gastric juice, blood, raw meat, fat, bone, marrow, semen, etc.

Below is a reproduction of the passage in which Vajroli is described in the Hatharatnāvalī:

II.74. Now, I will speak about Vajroli, which is kept secret by all yogis. The secret process of this (practice) should not be revealed to unprepared people.

II.75. To whomever the guru feels as if it were his own prāna,[23] in fact, it (the practice) should be communicated to him (the prepared person). It should not be given even to one's own child without the guru (master) and sishya (disciple) tradition.

II.76. The awakening of kundalī, the purification of all nadīs and the balance of apāna and prāna (internal energies) is done through Vajroli (mudrā).

II.77. I am speaking of the practice process according to tradition. Men and women should understand it with great intellect.

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22 A somewhat different description from that presented here is given by Swami Sivananda of Rishikesh in Kundalini Yoga, see: SIVANANDA, 1980: 141-4.

23 A metaphorical way of saying that someone is prepared to receive something highly valued.

Note: A tube, which can be blown through its interior, should be held in front of the urethra, and another (tube) should be inserted into the urethra, and (the ends of both) should be joined at the beginning of the practice. In the middle, the characteristics of the tube, which can be blown, are mentioned (shown). Now, the description of the tube that should be blown between them (the tubes) is given.

II.78. It (the tube) can be of gold, silver, copper, or iron. A tube should be made carefully so that it can be blown through.

II.79. It (the tube) should be twenty angles long (vishatyanguladīrgha)[24] and thin, and at the beginning it should be round and small. This is like the kola tube that can be easily blown by Hatha (yoga) practitioners. This tube should be inserted into the urethra with effort. Then, it should be blown in such a way that air can pass easily. II.80. The practitioner should, with effort, blow into the urethra through the prescribed tube. This should be done repeatedly to allow air to pass through.

Note: The reference here is to the procedure being a cleansing process, like other kriyas in Hatha Yoga. The aim of this procedure seems to be to remove any irritation that may be stored in the urethra and act as a constant sexual arousal aid.

II.81. If the tube is made of green grass, then the passage of air will not be sufficient. If the passage of air is not important, then the green grass tube can be used.

24 Angula (अङ्गुल) in Sanskrit means "thumb," therefore it is the measurement corresponding to the width of a thumb. However, there is no consensus on its equivalent in inches; it could be 0.66 of an inch (1.67 cm) or 0.41 of an inch (1.05 cm), which correspond to 33.4 cm and 21 cm respectively.

II.83. This tube should be three palas (tripala) in weight)[25] and twelve angulas (dwardashāngula)[26] in length. This tube should be made like an umbrella and it should be smooth, shiny and soft.[27].

II.84. He should insert this tube (nāla) into the urethra for a moment without fear. This will give stability and strength to the penis, as well as increase the semen.

II.85. A tube, made of gold, very soft, resembling an umbrella and three times in weight and one vitasti[28] in length, this particular type of tube should be inserted into the urethra with effort to widen (the opening of the penis), thus the penis will become stronger.

II. 86 and 87. After passing the air, it (the tube) must be removed with effort, keeping it in a secret place, a beautiful lady lowers herself in a supine position[29] and naked, and undressing, he must lie on top of her and both must practice kumbhaka (breath retention).

II.88. Embracing each other tightly, he must insert his penis (linga) into the vagina (yoni). Then, both must kiss each other and they must make some sounds.[30]

II.89. They must scratch each other with their nails and gesture until sweat comes out. Then, the bindu coming out of the lady's female organ must be sucked (through the penis) by constant practice.

II.90. So, if the bindu (semen) has initiated the secretion of the male organ, this must be recovered by withdrawing it upwards, and in this

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25 This is a measure used by goldsmiths in India. One pala (पल) weighs 48 grams, therefore three palas are 144 grams.

26 Verse II.79 mentioned a length of twenty angulas (vishatyanguladīrgha).

27 A tube made of soft metal is impossible to find.

28 The unit of measurement corresponding to 12 angulas (12 thumbs), other sources state it to be the distance from the tip of the thumb to the tip of the little finger, that is, a hand span.

29 This is the position where you lie on your back and face up.

30 Swami Sivananda of Rishikesh observed that "To practice this (vajrolī mudrā) there is absolutely no need for a woman or any sexual relationship" (SIVANANDA, 1980: 143). According to him, the goal of this practice is to maintain Brahmacharya (celibacy).

way saving his own bindu (semen), the yogi conquers death.
II.91. Death comes due to the fall of the bindu (semen). By preserving this bindu, the practitioner achieves longevity. This can be obtained by controlling the practitioner's own chitta (mind), because semen is the life force.
II.92. However, semen, like the chitta (mind), must be preserved with effort. The practitioner must mentally love only that woman with whom he practices vajroli.
II.93. In the female reproductive organ, rajas (menstrual fluid) is permanent; rajas must be preserved during the period, just as bindu (semen) must be preserved.
II.94. At the opportune moment for conception, when the pure semen enters the yoni (vagina), the woman's ovary unites with the semen due to the wind.
II.95. The duration of life, karma, wealth, and education—these four are fixed at the moment of conception, when the fetus is in the womb.
Now, the process of this practice for women is gradually described below:
II.100. Holding the penis (linga) with the hands, the upper part of it (the glans of the penis) should be inserted into the female genital organ. Until the upper part of the penis is inside (the vagina), women should practice this vajroli.
II.101. After this, she should extract the rajas (menstrual fluid) if possible. The nothingness in her body moves like the bindu (for women).
II.102. These bindu and rajas, produced in the body, must be blended through the vajroli practice of yoga, then success in yoga is attainable.
II.103. A woman who does not know the teachings (shastra) of yoga should not practice vajroli. This yoga is recommended for pious and courageous yogis who have insight into reality.
II.104. (...) This yoga is auspicious among all yogas.

II.105. Thus, this great yoga offers pleasure and liberation. By preserving the bindu (semen), a yogi's body becomes fragrant.
Next, the description of the practice of vajrolī in Hathayogapradīpikā:

अथ वज्रोली
स्वेच्छया वतर्मानोऽप योगोक्तैनर्यमैवर्ना । वज्रोलीं यो विजानाति स योगी सिद्धभाजनम्॥ ८३॥
atha vajrolī
svecchayā vartamāno'pi yogoktairniyamairvinā | vajrolīṁ yo vijānāti sa yogī siddhibhājanam || 83 ||
Now, vajrolīmudrā, the adamantine gesture:
II:83. Vajrolīmudrā: Even those who lead a disorderly life, without observing the disciplines prescribed in
Yoga, can develop siddhis, supernatural powers, by mastering vajrolīmudrā.

तत्र वस्तुद्वयं वक्ष्ये दुलर्भं यस्य कस्यिचत् । क्षीरं चैकं द्वितीयं तु नारी च वशवितर् नी ॥ ८४॥
tatra vastudvayaṁ vakṣye durlabhaṁ yasya kasyacit | kṣīraṁ caikaṁ dvitīyaṁ tu nārī ca vaśavartinī || 84 ||
III:84. For this practice, two things difficult to obtain are necessary: milk (at the precise moment) and a
willing woman (to practice together with the man).

मेहनेन शनैः सम्यगूध्वार्कु ञ्चनमभ्यसेत् पुरुषोऽप्यथवा नारी वज्रोलीसिद्धमाप्नुयात् ॥ ८५॥
mehanena śanaiḥ samyagūrdhvākuñcanamabhyaset | puruṣo'pyathavā nārī vajrolīsiddhimāpnuyāt || 85 ||
III:85. By sucking the ejaculated semen during sexual intercourse [maithuṇā], whether the person is male or female, one obtains success in the practice of vajrolī.

यत्नतः शस्तनालेन फू त्कारं वज्रकन्दरे । शनैः शनैः प्रकु वीर्त वायुसंचारकारणात् ॥ ८६॥

yatnataḥ śastanālena phūtkāraṁ vajrakandare | śanaiḥ śanaiḥ prakurvīta vāyusaṁcārakāraṇāt || 86 ||
Vajrolīmudrā: the technique. I
II:86. Carefully, forceful air is blown into the penis with the aid of a tube (inserted into the urethra) in order to allow air to pass through (inside).

Note: A thin, twelve-inch-long catheter is inserted into the urethra, gradually deepening the insertion by one inch per day, until ten inches are inserted, leaving a two-inch extension outside, which is folded upwards. Next, a thinner tube is inserted inside the previous one and gently blown to open the passage. Then, performing nauli or uḍḍīyānabandha, water is continued to be absorbed through the tube and, progressively, increasingly dense liquids until, finally, the semen itself is sucked out, first with the aid of the probe and then without it. For success in this practice, it is necessary to control breathing and equally master khecarī. mudrā.

नारीभगे पदिद्बन्दुमभ्यासेनोध्वर्माहरेत् । चिलतं च निजं बिन्दुमूध्वर्माकृष्य रक्षयेत् ॥ ८७॥
nārībhage padadbindumabhyāsenordhvamāharet | calitaṁ ca nijaṁ bindumūrdhvamākṛṣya rakṣayet || 87 ||
III:87. The bindu that is about to be ejaculated into a woman's vagina should be absorbed with the help of vajrolīmudrā; if ejaculation has already occurred, the bindu itself should be reabsorbed along with the vaginal fluids in order to preserve it.

Note: During ejaculation, the urethra undergoes spasmodic, reflexive, and irrepressible contractions that expel the semen; vajrolīmudrā reduces the chance of ejaculation by decreasing the sensitivity of the nerve endings of the urethra, which reduce the ejaculatory reflex without altering sexual desire.

संरक्षयिद्बन्दु जयित योगिवत । मरणं बिन्दुपातेन जीवनं बिन्दुधारणात् ॥ ८८॥

evaṁ saṁrakṣayedbinduṁ jayati yogavit | marṇaṁ bindupātena jīvanaṁ bindudhāraṇāt || 88 ||
III:88. In this way, the yogin preserves his bindu and overcomes death. When the bindu is wasted, death happens in due time, but he who preserves it lives a long life.

सुगन्धो यिोगनो देहेजायतिबन्दधारणात् । याविद्बन्दः स्थिरो देहेतावत्कालभयंकुतः ॥ ८९॥
sugandho yogino dehe jāyate bindudhāraṇāt | yāvadbinduḥ sthiro dehetāvatkālabhayaṁ kutaḥ || 89 ||.
III.89. Retaining the bindu with the help of vajrolīmudrā, the yogin's body emanates a pleasant aroma. As long as the bindu is retained in the body, he will not fear death.

Note: Vajrolī strengthens the testicles and tones the gonads, which increases vigour and virility, while the increased production of male hormones rejuvenates the body.

चित्तायत्तं नृणांशुक्रं शुक्रायत्तंच जिीवतम्। तस्माच्छुक्रं मनश्चैव रक्षणीयंप्रयत्नतः ॥ ९०॥
cittāyattaṁ nṝṇāṁ śukraṁ śukrāyattaṁ ca jīvitam | tasmācchukraṁ manaścaiva rakṣaṇīyaṁ prayatnataḥ || 90 ||
III:90. The bindu of men is under the control of the mind, and life depends on the bindu. Therefore, the mind and the bindu must be protected by all means.

ऋतुमत्या रजोऽप्येवं निजं बिंदु च रक्षयेत्। मेढ्रणाकषर्येदुर्ध्वं सम्यगभ्यासयोगिवत्॥ ९१॥
ṛtumatyā rajo'pyevaṁ nijaṁ binduṁ ca rakṣhyet | meḍhreṇākarṣayedūrdhvaṁ samyagabhyāsayogavit || 91 ||
III:91. Whoever masters this practice shall fully absorb, through the penis, the semen expelled along with the vaginal fluids of the woman with whom he has sexual intercourse.

अथ सहजोलः सहजोलश्चामरिोलवज्रोल्या भेद एकतः । जलेसुभस्म निक्षप्य दग्धगोमयसम्भवम्॥ ९२॥
atha sahajoliḥ sahajoliścāmarolirvajrolyā bheda ekataḥ | jale subhasma nikṣipya dagdhagomayasambhavam || 92 ||
Sahajolīmudrā, the spontaneous gesture.
III:92. Sahajolī and amarolī are different variations of vajrolī. It is necessary, [later], to spread (on certain parts of the body, water mixed with ashes of burnt dung.

Note: In the preparation of bhasma or vibhūti, the dung undergoes a long purification process, the result of which is a very fine and aromatic ash. The use of sacred ashes on different parts of the body, such as the forehead, chest, arms, and legs, is an integral part of tantric yoga practices, as well as in the śaiva cult. Bhasma is a symbol of detachment from the physical body and the unchanging presence of the Self, which transcends the death of the body. The most visible sign of the use of ashes is the tripundra, a mark of three horizontal lines that devotees wear on their foreheads, representing the three aspects of the power of the Unlimited: will (icchāśakti), knowledge (jñānaśakti), and action. (kriyāśakti).

वज्रोलीमैथुनादध्वं स्त्रीपुंसोः स्वाङ्गलेपनम्। आसीनयोः सुखेनैव मुक्तव्यापारयोः क्षणात्॥ 93॥
vajrolīmaithunādūrdhvaṁ strīpuṁsoḥ svāṅgalepanam | āsīnayoḥ sukhenaiva muktavyāpārayoḥ kṣaṇāt || 93
III:93. After the practice of vajrolī during sexual intercourse, once all activity is finished, the man and woman, sitting comfortably, should rub the noblest parts of their bodies (head, forehead, eyes, heart, shoulders and arms) with this mixture.

सहजोलिरयंप्रोक्ता श्रद्धेया योगिभः सदा । अयंशुभकरो योगो भोगयुक्तोऽपि मुक्तदः ॥ ९४॥

sahajoliriyaṁ proktā śraddheyā yogibhiḥ sadā | ayaṁ śubhakaro yogo bhogayukto'pi muktidaḥ || 94 ||
III:94. This is called sahajolī and should be enjoyed by yogins as it is a beneficial process that provides liberation through sensual experience.

अयंयोगः पुण्यवतांधीराणांतत्त्वदिशर्नाम्। निमर्त्सराणांविैसध्येन्न तुमत्सरशिालनाम्॥ ९५॥
ayaṁ yogaḥ puṇyavatāṁ dhīrāṇāṁ tattvadarśinām | nirmatsarāṇāṁ vai sidhyenna tu matsaraśālinām || 95 ||
III:95. This technique is mastered only by those virtuous and courageous people who know the truth and are not, in any way, envious.

I.14. Disgusting Preparatory Practices for Kundalinī Awakening

Hathayoga Pradipika III.96-103:

अथ अमरोली पित्तोल्बणत्वात्प्रथमाम्बुधारां विहाय निसारतयान्त्यधाराम्। निषेव्यतेशीतलमध्यधारा कापिालके खण्डमतेऽमरोली ॥ ९६॥
atha amarolī pittolbaṇatvātprathamāmbudhārāṁ vihāya niḥsāratayāntyadhārām | niṣevyate
śītalamadhyadhārā kāpālike khaṇḍamate'marolī || 96 ||
Amarolīmudrā, the perfect gesture.
III:96. Amarolīmudrā: according to the secret doctrine of the Kapālikas, amarolī consists of drinking one's own urine, amari, once cold, discarding the first stream, because it contains excess bile, and the final portion, because it is too thin.

अमरीं यः पिबेन्नित्यं नस्यंकुवन्दनि दने। वज्रोलीमभ्यसेत्सम्यक्सामरोलीति कथ्यते॥ ९७॥
amarīṁ yaḥ pibennityaṁ nasyaṁ kurvandine dine |
vajrolīmabhyasetsamyaksāmarolīti kathyate || 97 ||

III:97. Whoever drinks amari, smells it, and practices vajrolī daily is called an amarolī practitioner.[31]

अभ्यासान्नःसृतांचान्द्रीं विभूत्या सह मिश्रयेत्। धारयेदत्तमाङ्गेषु दव्यदृिष्टः प्रजायते ॥ ९८॥
abhyāsānniḥsṛtāṁ cāndrīṁ vibhūtyā saha miśrayet |
dhārayeduttamāṅgeṣu divyadṛṣṭiḥ prajāyate || 98 ||
Vajrolī for the yoginī.
III:98. Ashes are mixed with bindu (semen) after the practice of vajrolī, and this mixture is rubbed on the noble parts of the body, thus obtaining divine vision.

पुंसो बिन्दुं समाकुञ्च्य सम्यगभ्यास-पाटवात् यदि नारी रजो रक्षेद्वज्रोल्या सापि योगिनी ॥ ९९॥
puṁso binduṁ samākuñcya samyagabhyāsapāṭavāt | yadi nārī rajo rakṣedvajrolyā sāpi yoginī || 99 ||
III:99. If a woman practices it enough to master this technique, if she is able to absorb the man's bindu and retain it within herself by means of vajrolī, she will become a yoginī.

तस्याः किंचिद्रजो नाशं न गच्छति न संशयः तस्याः शरीरे नादश्च बिन्दुतामेव गच्छति ॥ १००॥
tasyāḥ kiṁcidrajo nāśaṁ na gacchati na saṁśayaḥ | tasyāḥ śarīre nādaśca bindutāmeva gacchati || 100 ||
III:100. [Thus,] without a doubt, the loss of the minimum amount of female vital flow is avoided. In the body [of the yoginī], the nāḍa is transmuted into bindu.

स बिन्दुस्तद्रजश्चैव एकीभूय स्वदेहगौ वज्रोल्य्-अभ्यास-योगेन सर्व-सिद्धिं प्रयच्छतः ॥ १०१॥
sa bindustadrajaścaiva ekībhūya svadehagau |

31 This verse is repeated verbatim in Yogatattwa Upanishad 128.

vajrolyabhyāsayogena sarvasiddhiṁ prayacchataḥ || 101 ||
III:101. If the semen (bindu) and the female fluid (rājas) remain united inside the body through vajrolī, all types of siddhi will be achieved.

रक्षेदाकुञ्चनादुर्ध्वं या रजः सा हि योगनी । अतीतानागतं वेत्ति खेचरी च भवेदध्रुवम्॥ १०२॥
rakṣedākuñcanādūrdhvaṁ yā rajaḥ sā hi yoginī | atītānāgataṁ vetti khecarī ca bhaveddhruvam || 102 ||
III:102. A yoginī who preserves his rājas through ascending activation can know the past and the future and attain perfection in khecarī.

देहिसिद्धं च लभतेवज्रोल्प्अभ्यासयोगतः । अयंपुण्यकरो योगो भोगेभुक्तेऽपि मुक्तदः ॥ १०३॥
dehasiddhiṁ ca labhate vajrolyabhyāsayogataḥ | ayaṁ puṇyakaro yogo bhoge bhukte'pi muktidaḥ || 103 ||
III:103. Through the practice of vajrolī, one obtains the perfection of the body (beauty, grace, and strength); this type of Yoga provides merit and, although it coexists with sensual experience, leads to liberation, mokṣa.

The Yogatattwa Upanishad (126-8) mentions the practice of vajrolī in the following way: "... The yogi who practices vajrolī regularly, he is able to attain the siddhis. (...) He knows the past[32] and can certainly travel through the air" (126-7). He who drinks his amarī (urine)[33] by doing it (kurvat) through the nose (nasa) daily and

32 Some translations include "past and future," but the Sanskrit word corresponding to the term "future" does not appear in the Sanskrit texts consulted.

33 अमरीं (amarī) has other meanings; here it is used in the sense of "urine," to place it in the context of the practice of vajrolī. Other translators translate it as "nectar" (example: AIYAR, 2003: 153).

practices vajrolī regularly, so he is considered a practitioner of amarolī..."[34] (128).

34 Amarolī (अमरोली) is the name of a mudrā (yoga technique) practiced in the following way: Having discarded the first stream of water because of its excessive heat and the last stream because it is useless, [the yogi] should use the middle stream [which is] cold. In the Khaṇḍakāpālika sect, this is [called] Amarolī. If he regularly drinks the [middle stream called] amarī; smells [it] every day and correctly practices the vajrolī mudrā [to aspirate it into the urethra], he is called amarolī. He should mix the lunar fluid that is emitted because of [this] practice with ashes and [then] place it on the upper part of the body (i.e., head, eyes, shoulders, throat, chest, arms, and so on). [As a result], divine vision arises. T. R. Srinivasa Ayyangar explained it this way: "Vajrolī consists of connecting the head of the penis to a bronze cup of cow's milk, sucking the milk and pouring it out, and repeatedly practicing this, then pouring the semen into the woman's vagina and sucking it out with the sanita (blood) expelled by her" (AYYANGAR, 1952: 321). Swami Muktibodhananda explained it this way: "...there are seven practices of vajrolī. The practice involves years of preparation, which begins with the simple contraction of the urogenital muscles and later with the suction of fluids. Only after the sixth practice is completed can the seventh be successfully attempted by the yogi, which is the practice included in maithuna (sexual intercourse). Through this practice of vajrolī, sexual energy, hormones, and secretions are reassimilated in the body. Its result is the union of the negative and positive poles of energy within the body itself" (MUKTIBODHANANDA, 2006: 370). Another short, but also repugnant, description appears in Haṭhapradīpikā III.96-8.

Part Two

II.1. The Siddhis (Supernatural Powers)

II.1.1. In the Yoga Sutras of Patanjali

Hindu texts make countless utopian promises about the marvelous results arising from the practice of yoga. The best known and most mentioned of these supernatural powers are those known as सिद्धयः (siddhis). The most frequently mentioned are the अष्टसिद्धयः (ashatasiddhis), the Eight Supernatural Powers. The definitions of each of these siddhis vary from one text or commentary to another; the most followed are the definitions in Vyāsa's commentary Yogabhashya (7th century CE) and in Vāchaspati Mishra's sub-commentary Tattwavāisharadī (9th century CE) of aphorism III.44 (or III.45)[35] of Patanjali's Yogasūtras. The powers are defined in the commentaries as follows:

1. tatra animā bhavatyanu – Animā (diminution) is becoming as small as an atom (anu).
2. laghimā laghurbhavati – Laghimā[36] (lightness) is becoming light (laghu).
3. mahimā mahānbhavati – Mahimā (increase) is becoming large (mahan).
4. praptirangulyagrenāpih sprshati chandramasam – Prapti (reach) he touches the moon with the tip of his finger (anghula).
5. prākāmyamicchanabhighātah bhūmā vrmajjati nimajjati yathodake – Prākāmya (freedom of will) the will by which he sinks into the earth (bhūman) and rises as in water (udaka).

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35 Some editions place this aphorism in III.45 (examples: WOODS, 1977: 278 and BRYANT, 2009: 461-2).

36 In contrast to Laguimā (lightness), some lists of siddhis include गरिमा - Garīmā (the ability to make the body very heavy), for example: Amanaska I.70 (BIRCH, 2013: 245).

6.vashitwam bhūtabhautikeshu vashībhavatyabashyashchānyeshām – Vashitwa (control) he becomes possessed of control over all the elements and over the elemental powers and is not subject to the control of others (anya).
7. īshitwam tesham prabhavāpyavyuhānāmīshte – Īshitwa (superiority) creation, destruction, and aggregation all depend on his will.
8. yatrakāmāvasāyitwam satyasankalpatā yathā sankalpastathā – Yatrakāmāvasāyitwa (infinitude of the power of will) the capacity to determine things according to his desire (sankalpa), (WOODS, 1977: 278-9; BABA, 1982: 89-90 and BRYANT, 2009: 461-3).

Immediately following, in the Yogabhāshya commentary on the same aphorism, Vyāsa mentions five more factors that are incapable of obstructing the action of a yogi: "...the earth does not resist the action of the yogi's body by virtue of its hardness; he can pass through even a stone. Moving air (wind) does not carry him. His body becomes covered even by the ether (akāsha), which nothing can conceal, and he becomes invisible, even to the siddhas (perfect beings) (BABA, 1982: 90; WOODS, 1977 and BRYANT, 2009: 462).

II.1.2. In the Puranas

Another passage with definitions of these ashtasiddhis appears in the Bhagavata Purana XI.15.04-5, however the definitions in G. V. Tagare's translation are interpretive, probably taken from a commentary on the passage, which differ considerably from the definitions above:
4. Atomization, levitation, and amplification are the three superpowers belonging to the yogi's physical body. The power called prāpti means the ability to act through the senses of others, establishing contacts with deities who direct these senses (and thus the yogi can control all things); Prākāmya is the power to enjoy all things (in heaven) described in the shāstras and those hidden under the earth as well as objects in the visible world. Īshitā (ability to

govern) is the ability to use māyā (and other inferior powers) to achieve one's own desires.
5. Vashitā (self-control) is detachment from objects of sensory pleasure, and the eighth superpower is the ability to fully enjoy any desire one may wish for (and is therefore called Kāmāvasāyitā). O Uddhava, these eight powers are considered to be inherent in me (to the highest degree) (TAGARE, 1989: part V, 1997).

However, these lengthy and explanatory translations are derived from short verses such as the ones below:

अणिमा महिमा मूर्तेर्लघिमा प्राप्तिरिन्द्रियैः ।
प्राकाम्यं श्रुतदृष्टेषु शक्तिप्रेरणमीशिता ॥ ४॥
aṇimā mahimā mūrterlaghimā prāptirindriyaiḥ |
prākāmyaṃ śrutadṛṣṭeṣu śaktipreraṇamīśitā || 4 ||
गुणेष्वसङ्गो वशिता यत्कामस्तदवस्यति ।
एता मे सिद्धयः सौम्य अष्टावौत्पत्तिका मताः ॥ ५ ॥
guṇeṣvasaṅgo vaśitā yatkāmastadavasyati |
etā me siddhayaḥ saumya aṣṭāvautpattikā matāḥ || 5 ||

The literal translation, therefore without the definitions and interpretations of these two verses, is as follows:
4. Diminution, increase, lightness of the body, reach of the senses, freedom of the will to see and hear, power of superiority.
5. Detachment that provides control and unlimited power of the will. These eight powers are in me.

In the previous verse (03), the existence of 18 powers is mentioned, of which eight are the superior siddhis (ashtasiddhis) and ten are the inferior siddhis. The latter are described in verses 06-7, they are:
Verse 6
“Immunity from the changes of this body (such as hunger, thirst, grief, disillusionment, old age, and death), the ability to see and hear from any distance, the power to physically reach a person's destination with the speed of the mind, the ability to assume any form at will, the ability to enter the body of any other person (leaving one's own body in a safe place).”

Verse 7

“The ability to discard one's own body at will, the ability to see (and participate in) the pastimes of the gods with celestial nymphs, the achievement of objects desired by the person, and the ability to exercise authority without any obstruction or insubordination” (TAGARE, 1989: part V, 1997-8).

Another passage in the Shiva Purāna (Rudrasamnhitā, II.01.11.44-7) mentions ashtasiddhis, however, this time, inserted in a ritualistic context:

Texts of verses 44-7:

लिंगशुद्धिं ततः कृत्वा मुदा युक्तो नरस्तदा ।
यथोचितं तु मंत्रौघैः प्रणवादिर्नमोंतकैः ॥ ४४॥
liṃgaśuddhiṃ tataḥ kṛtvā mudā yukto narastadā |
yathocitaṃ tu maṃtraughaiḥ praṇavādirnamoṃtakaiḥ || 44 ||

कल्पयेदासनं स्वस्तिपद्मादि प्रणवेन तु ।
तस्मात्पूर्वदिशं साक्षादणिमामयमक्षरम् ॥ ४५॥
kalpayedāsanaṃ svastipadmādi praṇavena tu |
tasmātpūrvadiśaṃ sākṣādaṇimāmayamakṣaram || 45 ||

लघिमा दक्षिणं चैव महिमा पश्चिमं तथा ।
प्राप्तिश्चैवोत्तरं पत्रं प्राकाम्यं पावकस्य च ॥ ४६॥
laghimā dakṣiṇaṃ caiva mahimā paścimaṃ tathā |
prāptiścaivottaraṃ patraṃ prākāmyaṃ pāvakasya ca || 46 ||

ईशित्वं नैर्ऋतं पत्रं वशित्वं वायुगोचरे ।
सर्वज्ञत्वं तथैशान्यं कर्णिका सोम उच्यते ॥ ४७॥
īśitvaṃ nairṛtaṃ patramṃ vaśitvaṃ vāyugocare |
sarvajñatvaṃ tathaiśānyaṃ karṇikā soma ucyate || 47 ||

Translation of verses 44-7:

The Linga[37] must be purified and installed with several mantras beginning with Pranava and ending with Namah. The pedestal in the form of a Swastika or lotus must be marked with Pranava. On the eight petals, at the eight cardinal points, the eight powers (ashtasiddhis) are identified: the east pedestal is Animā (smallness), the south pedestal is Laghima (lightness), the west is Mahimā (greatness), the north is Prāpti (power of reach), the southeast is Prākāmya (power of sufficiency), the southwest is Īshitwa (dominion), the northwest is Vashitwa (power of control), the northeast is Sarvajnatwa (omniscience), and the pericarp is the Moon (Soma)" (BOARD OF SCHOLARS, 1993: part I, 220).

Note that the descriptions of the siddhis (supernatural powers) are not always coincident from one text to another. See a long quotation of siddhis, more than thirty, in the Amanaska, a text followed by the Hatha Yogis, of unknown authorship[38] according to the results of research in the preparation of the critical edition of this text by Jason Birch (BIRCH, 2013: 02). Due to the large quantity, only a few will be reproduced here:

vāsarārdhalayenāpi svātmajyotiḥ prakāśate |
sūryo gobhir ivoddīpto yogī viśvaṃ prakāśate || 51 ||
Through absorption (samādhi) for half a day, the light of oneself shines. Just as the sun shines with its own rays of light, the yogi shines (and illuminates) the world (I.51).

dinamātralayenāpi svātmatattvaṃ prakāśate |
indriyajñānavistāro brahmāṇḍe 'py asya vartate || 52 ||
Through absorption (samādhi) for just one day, the higher reality of the yogi's own self manifests. An expansion of his sensory knowledge arises for him, even to the limits of the universe (I.52).

37 The god Shiva is represented in the form of a phallus, a very popular Shaivite symbol in India.

38 The tradition of the Nāthasiddhas attributes the authorship to the perhaps legendary Gorakshanātha, but Jason Birch disagreed.

ahorātralayenāpi yogī ca svāsane sthitaḥ |
cittavṛttinirodhena gandhaṃ jānāti dūrataḥ || 53 ||
Through absorption (samādhi) for a day and a night, the yogi who is firmly seated knows the smells from afar, because of the cessation of his mind's activity (I.53).

ahorātradvayenāpi layānandasumūrchitaḥ |
dūrād api rasaṃ vetti yogī saṅkalpavarjitaḥ || 54 ||
In two days and two nights, the yogi, who is completely immersed in the bliss of absorption (samādhi) and
free from desire, experiences taste even from afar (I.54).

ahorātratrayeṇāpi layenāntaḥsthayoginaḥ |
dūradarśanavijñānaṃ svabhāvenaiva vartate || 55 ||
In three days and three nights, the yogi who is introverted through absorption spontaneously has the faculty of seeing from afar (I.55).

ahorātracatuṣkeṇa layabhāvaprabhāvataḥ |
sparśaṃ jānāti yogīndro dūrād api na saṃśayaḥ || 56 ||
In four days and four nights, there is no doubt I, the best of yogis, know (the feeling of) touch even from afar, by virtue of the state of absorption (I.56).

pañcarātralayenāpi tasyāpy utpadyate dhruvam |
dūraśravaṇavijñānaṃ mahadāścaryakārakam || 57 ||
Through absorption for five days and five nights, the faculty of hearing at a distance, which causes great admiration, certainly arises for the yogi (I.57).

etat pañcendriyajñānaṃ mahat svānubhavātmakam |
jānāty anena yogīndraḥ sakalaṃ viśvavartanam || 58 ||
This supernatural knowledge (derived) from the five senses consists of personal experience (as opposed to theoretical knowledge).

Through it, the best of yogis knows everything that is happening in the universe (I.58).

tatas trayodaśāhena layenāpi mahādbhutam |
yogīndraḥ khecarīsiddhiṃ labhate cintanād api || 66 ||
Thus, through absorption for a period of thirteen days, the best of yogis marvelously attains the siddhi of moving in the ether (akāsha) at will.

From shloka 67 onwards, the description of the experiences resulting from the development of the ashtasiddhis begins:

caturdaśadināntaṃ ca layastho yadi tiṣṭhati |
aṇimākhyāsya siddhiḥ syād aṇutvaṃ prāpyate yayā || 67 ||
If (the yogi) who remains in absorption continues until the end of fourteen days, he (gains) the siddhi called Aṇimā, by which the state of being extremely small is attained.

ātmany evātmanā līno yogī ṣoḍaśavāsarān |
labhate mahimāsiddhiṃ sumahārūpadhṛg yayā || 68 ||
The yogi who remains absorbed in the self (by the self) for sixteen days obtains the siddhi of Mahimā, by which he possesses an extremely large size (I.68).

aṣṭādaśadināntaṃ ca layastho yadi tiṣṭhati |
garimākhyāṃ labhet siddhiṃ yayā bhūbhāradhṛg bhavet || 69 ||
If (the yogi) remains in absorption until the end of eighteen days, he obtains the siddhi called Garimā, by which he possesses the weight of the earth (I.69).

abhinnātma layenāpi tasya viṃśativāsarān |
laghimākhyā bhavet siddhir yayāṇutvasya bhāradhṛk || 70 ||
Through absorption for twenty days in the undivided self, he (the yogi) obtains the siddhi called Laghimā, by which he possesses the

weight of an atom (I.70).

dvāviṃśatidināni syāt tv alakṣye yo layaṃ gataḥ |
prāptisiddhir bhavet tasya prāpayed yā jagatsthitam || 71 ||

(He who) has absorbed himself in that which has no characteristics (i.e., the absolute) for twenty-two days, obtains the siddhi (called) Prāpti, which enables him to attain (all) that is in the world (I.71).

pare layaṃ gato yogī caturviṃśativāsarān |
tasya prākāmyasiddhiḥ syād īpsitaṃ labhate yayā || 72 ||
He who is absorbed in the highest reality for twenty-four days obtains the siddhi (called) Prākāmya, by which he attains what he desires (I.72).

yasyaivāstaṃ gataṃ cittaṃ ṣaḍviṃśatidināni vai |
labhate jagadīśatvaṃ yena viśvagurur bhavet || 73 ||
(The yogi) whose mind has disappeared for twenty-six days obtains sovereignty (Īshtwam) over the world, by which he becomes the master of all (I.73).

aṣṭāviṃśatyahar yasya layas tiṣṭhet sthirātmani |
vaśitvasiddhiprāptiḥ syād yayā vai vaśyakṛj jagat || 74 ||
(The yogi) whose absorption in the stable self remains for twenty-eight days, obtains the siddhi of control (Vashitwa), by which he subdues the world (I.74).

The siddhi yatrakāmāvasāyitwa (power of infinite will), mentioned in other texts, does not appear in the order (verses 67-74) of the description of these ashtasiddhis (eight supernatural powers). Following this, the description of other siddhis continues, for the union of the yogi with each of the five Dense Elements (Mahābhūta Tattwas: Earth, Water, Air, Fire, and Ether), up to verse I.82. Also,

spectacular healings are described in the verses preceding shloka I.67.

II.1.3. More Supernatural Powers

Besides many other mentions, Patanjali's Yogasūtras mention, in chapter III (Vibhūti Pāda), a number of miraculous powers attained by the practitioner through samyama,[39] in certain forces and objects. Only a few will be reproduced and commented on below:

Aphorism III.23 (III.24 or III.25 in some editions):

बलेषु हस्ति बलादीनि
Baleshu hastibalādīni
(Through samyama) in the forces (balāni), (the yogi attains) the strength of the elephant (hastin) and others.

Like other supernatural powers (siddhis), this one is only found in mythological and religious accounts, never in real life. There is no record or document, properly confirmed (photos, videos, demonstrations, technical expertise, and scientific tests through controlled observation, only anecdotal accounts from awestruck practitioners, that no human has ever managed to achieve the

39 Samyama, literally meaning "to hold together," "to bind," "to connect," as well as "restraint," and also "internal discipline," takes on a peculiar technical meaning in Patanjali's Yoga Sutras: it is the simultaneous combined practice of Dharana (concentration), Dhyana (meditation), and Samadhi (union). Yoga Sutras III.04 - त्रयमेकत्र संयम – trayamekatra samyama (the three unified is samyama). It is a tool for gaining a deeper understanding of the qualities of the object. It is a term that summarises the "comprehensive" process of psychological absorption in the object of meditation. Therefore, it is a term difficult to translate into a single word, to contemporary languages, which is why I preferred to keep the words in Sanskrit.

strength of an elephant. This is yet another hyperbolic figure of speech, so common in religious books, intended to fill the aspirant with hope and optimism.

II.1.4. And another even more exaggerated power

III.25 (III.26 or III.27)

भुवनज्ञानं सूर्ये संयमात्
Bhūvanajnānam sūrye samyamāt
(Through samyama) in the sun (Sūrya), (one attains) knowledge of the worlds (bhūvana).

The mention of “worlds” (bhūvana), in the plural, is due to the fact that it refers not only to the physical world, but also to the celestial and infernal worlds. Vyāsa's commentary on this aphorism is extensive, so it would take too much space to reproduce it here. Therefore, if the reader wishes to learn about the ancient mythological cosmology of the Hindus, extracted from the Purānas, from a critical perspective, consult: BOTELHO, 2021: 10s. Now, to believe that any yogi is capable of knowing the worlds through samyama in the sun alone is a delusional belief. Some mystics seek to correct this absurdity by claiming that this sun is not the physical sun, but rather the spiritual sun (jyoti), the divine light perceived by the enlightened yogi within, after many practices and/or by the grace of God, with the awakening of the third eye. For they believe that, upon reaching this elevated state of consciousness, the yogi is capable of perceiving, through the subtle eye, all worlds, including worlds beyond the physical world. Well, if this experiment were possible, the invention of the telescope, astronomical observatories, orbital telescopes, and the space telescope (James Webb) would have been unnecessary. The revelations from the experiments of these enlightened yogis would have been enough to clarify all the mysteries of the universe. Thus, the cosmological and astronomical

research of Aristotle, Ptolemy, Copernicus, Galileo, Kepler, Einstein, Hubble, etc., would have been unnecessary, as these yogis could have anticipated all the results of their investigations. However, the revelations of these seers never came to pass; they were merely ancient mythological and fantastical conjectures, which were never subsequently confirmed by research in cosmology, astronomy, and astrophysics. Finally, if these ancient speculators did not even get their descriptions of the physical universe right, what then of their delirious speculations about the celestial and infernal worlds (for further information, see BOTELHO, 2021: 10s). Some interpreters, in order to explain that the sun (sūrya), mentioned in this aphorism, is not the astronomical sun, but rather the "solar plexus," and the universe (bhuvana) represents the "cosmic centres," that is, the chakras. This interpretation is unfounded, since the ancient Indians did not know the solar plexus by this name, which contemporary interpreters identify with the manipūra chakra of tantric physiology. The compound word मनिपूर - manipūra (or manipūraka) does not mean something "solar," but rather mani (jewel) and pūra (city), that is, "city of the jewel." At the end of his long commentary on this aphorism, after a lengthy exposition on Hindu mythological cosmology, Vyāsa mentioned that "After practicing samnyama (concentration) at the 'gate of the sun' and then also at other parts (of the body), he (the yogi) must practice until all this (the mythological universe) is seen" (BABA, 1982: 84 and WOODS, 1977: 257). In the sub-commentary by Vāchaspati Mishra, he interpreted the phrase "at the gate of the sun" as meaning in the tube of the sushumnā (WOODS, 1977: 259). Other Hindu texts mention the "gate of the sun" (सूर्य द्वर - sūrya dwara), but not in the sense of "solar plexus" or manipūra chakra. "Through the gate of the sun (sūryadwarena) they (the ascetics) go, immaculate, to where that immortal Being (purusha) is, that immutable Self" (Mundaka Upanishad, I.02.11 - OLIVELLE, 1998: 440-1). Also, "He, penetrating the solar gate, went upward" (Maitri Upanishad VI.30). Vasant G. Rele envisioned the following correspondence between the chakras

and nerve plexuses: the mūlādhāra chakra with the pelvic plexus, the swadhisthana chakra with the hypogastric plexus, the manipūra chakra with the solar plexus, the anāhata chakra with the cardiac plexus, the vishuddhi chakra with the laryngeal plexus, and the ajna chakra with the command plexus. (RELE, 1931: XX). In contrast, S. N. Das Gupta identified the manipūra chakra with the lumbar plexus, in the region of the navel (DASGUPTA, 1975: vol. II, 355), which is why it is also known as the nabhi chakra (navel chakra), instead of the solar plexus.

II.1.5. Another astronomical power:

III.26 (III.27 or III.28)

चन्द्रे ताराव्यूहज्ञानम्
Chandre tārāvyūhajnānam
(Through samyama) on the moon (chandra) (arises) the knowledge of the organization of the star(s) (tārāvyūha)

In the Yoga Bhāshya commentary, Vyāsa interpreted the compound word ताराव्यूहज्ञानम् – tārāvyūhajnānam (knowledge of the organization of the stars), which is in the singular, to the plural ताराणाम् व्यूहं विजाानीयात् - tārānam vyūham vijānīyāt (discernment of the organization of the stars), which is grammatically more correct and makes more sense. This is a difficult aphorism to understand, as Vyāsa's commentary is short and Vāchaspati's is silent, therefore it is difficult to understand what "knowledge of the arrangement of the stars" means. Certainly, Patanjali took this idea from Hindu Astrology, which is almost entirely different from current astronomy. Perhaps he had the constellations of the zodiac in mind. The Hindus developed astrology (Jyotisham) even in the antiquity, however, due to the lack of scientific knowledge and the absence of instrumentation, knowledge was primitive. The sun and the moon were not a star and a natural satellite respectively, but rather planets, such as Mercury, Venus, Mars, Jupiter, and Saturn. Without sufficient instrumentation,

they recognised the difference between these planets and the stars by virtue of the difference in their movements and speeds in transiting the zodiac, and not by their nature, since, seen without instrumentation, the planets are apparently similar to the stars, as it is only possible to see their brightness. Therefore, in the past, the planet Venus was known as the Morning Star.

Following the line of the previous aphorism, again, astronomical knowledge can be achieved through samyama on the moon. Due to the similarity, the arguments here could be almost the same as the arguments of the previous aphorism, that is, no one to this day has achieved knowledge about the stars by meditating on the moon.

II.1.6. And one more astronomical power:

Aphorism III.27 (III.28 or III.29)

ध्रुवे तद्गतिज्ञानम्
Dhurve tadgatijnānam
(Through samyama) on the North Star (Dhurva) (the yogi) attains knowledge of its (the stars') movements.

In the Yogabhāshya commentary, Vyāsa added that, through samyama on the celestial chariot (ūrdhwavimāna), which moves through the heavens (for example, the chariot of the god Sūrya - Sun), one also attains knowledge (gati) of the stars. Regarding the movements of the stars, the ancients thought that the stars moved, due to their lack of knowledge of the Earth's rotational movement, because it is the Earth that moves, and not the stars in relation to it. They imagined that Earth was the centrer of the universe, even the sun revolved around it. Ancient Hindu cosmology mixed astronomy, astrology, mythology, anthropomorphism, and correspondence between the macrocosm and the microcosm (see: BOTELHO, 2021).

Strictly speaking, the North Star (Polaris) is not, as ancient

speculators thought, a single star; it is, in fact, a triple star system. The star we see with the naked eye is actually a combination of three stars orbiting a common centre of mass. The main one is Polaris Aa, a supergiant, accompanied by Polaris Ab, a dwarf star, and Polaris B, an even more distant star. Therefore, Polaris (North Star) is not just one star, but a star system composed of three stars that interact gravitationally. Polaris Aa is the brightest and largest star in the triple system; it is a yellow supergiant and is the only one that is visible to the naked eye. Polaris Ab is a dwarf star that orbits Polaris Aa, which is very close to it and not visible to the naked eye. Polaris B, the third star in the system, is located further away and is only visible through a telescope. The triple nature of Polaris (the North Star) was discovered through spectroscopic studies and images from powerful telescopes, such as the Hubble Space Telescope. The system is approximately 434 light-years from Earth, but the measurement varies, as it depends on the measurement criteria and the reference for the calculation. Therefore, due to the unavailability of instruments, early speculators could only imagine what the sky would look like, instead of discovering its nature and movement.

II.1.7. Now, the power to know the human body
:

Aphorism III,28 (III.29 or III.30)

नाभिचक्रे कायव्यूहज्ञानम
Nābhichakre kāyavyūhajnānam
(Through samyama) in the navel chakra (nābhi), (the yogi) attains knowledge of the organization (vyūha) of the body (kāya).

In the commentary, Vyāsa is explained that the arrangement of the body is formed by the three humors (trayodoshāh), which are: vāta (air or gas), pitta (bile), and shlema (phlegm). The body's materials are: skin, blood, flesh, nerve, bone, marrow, and semen.

This passage is yet another example of how the ancient Hindus understood the internal workings of the body much earlier than other peoples of the same era. The theory of humours (doshāh) plays an important role in Ayurvedic medicine; many bodily disorders were diagnosed according to the state of the humours, and the balance between them was crucial for health. The theory of humours originated in Ancient Greece and was developed by physicians such as Hippocrates (460 – 370 BCE) and Galen (129 CE – 216 CE). It was believed that the balance of humours was fundamental to physical and mental health. Various practices, such as diets, bloodletting, and other treatments, were used to restore the balance of humours in case of illness. The theory of humours influenced medicine and the understanding of the human body for centuries and can still be found in some traditional cultures. Obviously, the ancient theory of humours is obsolete in modern medicine.

If samyama on the navel chakra alone were enough to understand the body, imagine the sheer waste of the immense number of medical courses and laboratories scattered around the world, what a waste of money and effort! First, it is necessary to demonstrate whether this "navel chakra" (nabhichakra) exists, since its existence depends on belief in a subtle body (सूक्ष्मशरीर - sūkshmasharīta), which is not scientifically proven; therefore, it is necessary to believe in the teachings or the clairvoyance of yogis. The difficulty in this is explained by yogis as follows: only a few achieve this experience because it depends on austere practice, the grace of the guru, and God. Well, if few have achieved this power, and those few do not reveal or prove their achievement, then it becomes impossible to verify its veracity. In short, this feat only happens in mythology, religious scriptures, and anecdotal accounts by dazzled practitioners.

II.1.8. And it doesn't end there:

Aphorism III.29 (III.30 or III.31)

कण्ठकूपे ज्ञुत्पिपासानिवृत्ति
Kanthakūpe jnutpipāsānivrtti
(Through samyama) in the hole (kūpa) of the throat, (one achieves) the suppression (vrtti) of hunger and thirst.

Aphorism with a confusing meaning. The word कूप (kūpa) has diverse meanings in Sanskrit, the most common meanings being: “well”, “pit”, “hole”, “abyss”, etc. Vyāsa interpreted it thus: “Below the tongue is an opening, below this is the throat and below this kūpa (well, hole, cavity (which may be referring to the esophagus, or the stomach, or perhaps what we call the pit of the stomach). In short, we do not know anyone who has overcome hunger and thirst eternally, even through other techniques, because all attempts, by yogis and fakirs, have failed, with deaths or the interruption of the fast as a consequence, and when they seem to succeed, it is discovered that the attempts at prolonged fasting are frauds,[40] therefore, another power (siddhi) unattained. Thus, once

40 One of the most well-known frauds in recent history was that of Ram Bahadur Bomjon, a Nepalese man who gained international notoriety and became known worldwide as the "New Buddha" or "Buddha Boy" in 2005 in southern Nepal, after his followers claimed he could meditate motionless for months without needing food, water, or sleep. However, reporters caught him secretly eating and drinking water, as well as sleeping, which was recorded in photos and videos. To make matters worse, after his sudden escape from that location in 2006 and becoming a spiritual leader elsewhere, this fraudulent young man has been accused of sexually assaulting some of his female devotees and is now suspected of involvement in the disappearance of several others, as well as physically assaulting some devotees, including his brothers. This supposed “New Buddha,” now a spiritual leader in Nepal, is being investigated by the police for the disappearance of several of his followers, amidst various accusations that he sexually abused female devotees, especially an 18-year-old nun, as well as the kidnapping of a Slovakian devotee; therefore, in short, nothing more than another hoax (for details, see: Newsweek, Jan 07, 2019, Online Edition).

again, these experiences only occur in citations from religious books and in accounts, or in self-reports, or in casual anecdotal experiences. From a scientific perspective, these experiences serve only as an invitation to a scientific study, in a controlled environment and through systematic observation of the phenomenon in question, although some anecdotal experiences are too fanciful to stimulate rigorous research.

II.2. Analysis of Siddhis

Just as a tree is known by its fruit, the effectiveness of yoga practice is also known by its results, and siddhis are some examples. Since experiences with yoga practice are almost all personal and internal, as well as the most important, the only objective way to prove its effectiveness is through the results. For example, when someone reports an exclusively personal and internal experience, such as a dream, the only witness to the experience is the person who dreamed it, so the only way is to trust the person who reported the dream, since there is no objective and shareable proof, nor another witness, for such an experience. Strictly speaking, technology already exists today to confirm whether someone is dreaming or not, through the application of brain imaging, but this procedure only confirms whether that person, at a given moment, is dreaming or not, by identifying the activation of the brain regions responsible for the dreaming process; however, it is not possible to know what the sleeper is dreaming about, that is, it is not possible to know the story of the dream. Anecdotal experience can be valuable in legal science through witness testimonies, provided the witnesses are reliable and not subject to suspicion. However, most legal proceedings involve multiple witnesses in order to compare their testimonies, and these in turn are compared with physical and expert evidence.

Therefore, for the yoga practitioner who observes and interprets the results of the practices and their effects with sobriety

and good sense, what is proven is that we have never found any yoga practitioner who has achieved these siddhis (powers) and objectively demonstrated them. However, it is necessary to take into account that gurus recommend to their disciples that these supernatural powers are not the objective of Yoga, therefore the yogi should avoid displaying them. Thus, this advice is a procedure that avoids the possibility of objective proof that Yoga practices effectively achieve the results so confidently promised in yogic literature. Therefore, in the absence of this objective proof, it is only possible to find accounts of these extraordinary powers in mythology and religious literature. As we perceive it in the scriptures, the optimism about the results is so great and so magnificent that the result in practice would have to be that almost all practitioners would be enlightened and powerful immediately. Recurring promises in books and guru sermons claim that whoever awakens kundalini "becomes free from disease, old age, and death." However, what we see in reality is that many practitioners get sick, and it is impossible to find even one yogi who has not aged or, even more fantastically, who has not died. Therefore, this disproportion between the optimism of the literature and the unattainability of the results in practice leads us to conclude that the exalted optimism regarding results is merely hyperbole and rhetorical expression, in order to encourage the beginner and stimulate the continuity of those already practicing.

In popular literature on kundalini, it is possible to find, with relative frequency, self-reports of experiences so absurd that they can only be psychotic episodes. See the example of Jana Dixon in her book "*Biology of Kundalini: Exploring the Fire of Life*" (p. 75), who, from Australia, is able to sense the occurrence of meteorological phenomena in distant regions of the world. Note the humour: "The entire universe is a kundalini machine that winds us up for ever-increasing consciousness. With active kundalini, it's evident that the body is a tuning fork for the entire planet (and the solar system). I can feel my kundalini responding to the low pressures of hurricanes in the Gulf of Mexico as a feeling of bliss in my lungs and

belly. On a subliminal level, an active kundalini will give a greater biological response to the long waves transmitted by the Earth, originating from waves breaking on the coast during a hurricane and those initiated by the buildup of pressure before an earthquake. As hurricanes begin to form in the Atlantic, the energy descends to the lungs and belly and, in November, to the pelvis and through the jaw. I enter into radical ecstasy and kundalini heat during the 4 to 5 days that a major hurricane or cyclone is occurring in other parts of the world, such as the Caribbean or Bangladesh. However, I think I can only register a significant load of storms that these events are occurring in the same hemisphere of the globe as I am. This peak of ecstasy may be due to the specific frequency of the sub-audible Schumann harmonic sound, which must affect everything from the atoms of the body to the resonance within the cranial cavity. Schumann resonance is generated in the resonant cavity between the Earth's surface and the ionosphere."[41]

So, when a yoga practitioner, disappointed with their results, complains to their guru about his failure, the most common responses are that the effort is not enough, the disciple is not yet prepared, that the result is only granted by the grace of God, one needs to be initiated, one needs to purify oneself further, etc. Thus, the result is always pushed forward and becomes unattainable; it is something like someone walking in the sun and trying to reach their own shadow, it always gets ahead and the goal is never reached. In short, to conclude, siddhis are myths and fictions in Hindu literature.

II.3. The Yogakundalini Upanishad from a Critical Perspective

For illustrative purposes, I reproduce and comment below,

41 Now, from what can be read about kundalini, I have not found anything more psychotic and digressive from traditional accounts than the book "*The Secrets of Fire: Kundalini Yoga*" by Samuel Aun Weor, who proclaimed himself Kalki Avatara (the divine incarnation of the Age of Aquarius).

through critical notes, only on the first eighteen verses of the Yogakundalinī Upanishad. Through these few critical notes, the reader can get an idea of how many textual, editorial, conceptual, utopian, historical, overly optimistic, obsolete, ineffective, and unscientific problems exist behind the publications and translations of yoga texts, which confessional and apologetic translators and interpreters fail to observe. There is no critical edition of the Yogakundalinī Upanishad. The available editions appear to be extracted from the same manuscript or from the same earlier edition, without mentioning which manuscript this is. Therefore, we do not know how many manuscripts or recensions exist of this text, or whether the available printed editions are extracted from the autograph manuscript.

Chapter I

1-The two causes of citta (mind)

हेतद्वयं हि चित्तस्य वासना च समीरणः।
तयोर्विनष्ट एकस्मिंस्तद्वावपि विनश्यतः।।१।।

hetadvayaṃ hi cittasya vāsanā ca samīraṇaḥ /
tayorvinaṣṭa ekasmiṃstaddvāvapi vinaśyataḥ //1//

1-There are certainly two causes of the mind (citta): the vāsanās (innate impulses), and samīranah (the breath of vital air). If one of these two causes is destroyed, both will be destroyed.

Critical note: When viewed from a historical perspective, it is interesting to note how Hindus and Buddhists began psychological speculations so early in antiquity. Undoubtedly, these were the ancient religions most involved with psychological speculation, especially Buddhism, which we can point to as the most psychological religion of the ancient world, particularly Theravāda Buddhism. Also, opportunities arose for physiological speculations, as we saw earlier, and the traditions of Yoga and Tantra took advantage of this body of knowledge and adapted it to their soteriological interests. However, due to the attribution of sacredness

to these ancient speculations and the conservative character of religion, these speculations, maintained in the traditional books of the Hindus, preserve ideas that were speculated and experimented with in Antiquity, therefore in the pre-scientific period, thus very distant from the sophisticated scientific knowledge of today.

Therefore, attributing only two causes to the mind, in the current view, is a simplistic reductionism, when little was known about the nature and functions of the mind, especially its dependence on the brain, that is, it is currently accepted that the brain creates the mind. Therefore, at a time when Biology, Neurology, Genetics and other Sciences of the Mind did not yet exist, it was not possible to know the profound causes of the mind. Thus, in the face of incipient speculation, it was possible to attribute "the breathing of vital air (समीरणः - samīranah)" as the cause of the mind (chitta). In short, the mind has many causes. Professor Stephen P. Hinshaw taught in a short course: "This course examines how evolutionary forces have shaped the human brain and the mind it creates, and how each brain and mind develops throughout human life. To link brains to minds and evolution to individual development, we need to address several levels of analysis, encompassing genes, gene products, brain structures and chemicals, brain regions, lobes, and the environmental forces that shape our minds and brains" (HINSHAW, 2010: 04).[42] Therefore, knowledge of the mind is not as simple as ancient speculators thought.

This verse is repeated in Hathayoga Pradīpikā IV.22, with only two minor editorial changes: तु instead of हि and एकस्मिन्तौ instead of एकस्मिंस्तद्. The noun समीरणः - samīranah literally means "air," "wind," "breath," "breeze," "the wind of the body"; as an adjective it means "that which sets in motion," "stimulating," or "that

42 This is a book about a short course dealing with the origin and development of the human brain, using simple language understandable to laypeople: *Origins of the Human Brain*, by Stephen P. Hinshaw, Professor of Psychology and Head of the Department of Psychology at the University of California, Berkeley.

which promotes." Here it seems to be in the sense of "breath of vital air (vāyu)", so the translation may vary from one translator to another.

2/3a-Control of prāṇa

तयोरादौ समीरस्य जय कुर्यान्नरः सदा।
मिताहारश्चासनं च शक्तिचालस्तृतीयकः ।।२ ।।
एतेषां लक्षनं वक्ष्ये शृणु गौतम सादरम् ।।३।।
tayorādau samīrasya jaya kuryānnaraḥ sadā /
mitāhā raścāsanaṃ ca śakticālastṛtīyakaḥ // 2 //
eteṣāṃ lakṣanaṃ vakṣye śṛṇu gautama sādaram // 3a //
2/3a - Of these two, man must always control prāṇa, first by moderation in diet (mitāhārah), (then) by posture (āsana), and thirdly by śakticāla (by activating prānic energy). I will describe their characteristics. Listen carefully, Gautama.

Critical note: The translation of the noun नरः-narah (man) is divergent in translations, since some translators, especially the more modern ones, in order to avoid the misogynistic character in the meaning of the verse, translate narah as "person," with the intention of covering both sexes. The feminine of नरः-narah (man) is नारी-nārī (woman). Historically, we do not know of any women who were practitioners, instructors, or authors of works on Kundalini Yoga in Antiquity and the Middle Ages; when they appear, it is only in mythological books, such as the योगिनी-yoginīs, women endowed with supernatural powers.

3b/4a-Mitāhāra, moderation in diet

सुस्निग्धमधुराहारश्चतुर्थंशविवर्जितः ।।३।।
भुज्यते शिवसंप्रीत्यै मिताहारः स उच्यते ।।४।।
susnigdha madhura āhāraḥ caturthaṃśa vivarjitaḥ // 3b //
bhujyate śivasaṃprītyai mitāhāraḥ sa ucyate // 4a //

3b/4a-A soft and sweet food should be consumed, without filling a quarter [of the stomach] to please Śiva. This is called moderation in diet.

Critical note: विवर्जितः-vivarjitaḥ (without filling) चतुर्थश-caturthaṃśa (a quarter of the stomach) can only be an illustrative example, in order to prescribe that the practitioner should not completely fill the stomach during meals, since no one is able to accurately measure the amount of food consumed or remaining in the stomach. The reader may find the term आहारः-ahārā (food) translated as "offering," as well as the adjective सुस्निग्ध-susnigdha (soft) translated as "nutritious," but these are inaccuracies in the translations. Furthermore, the prescription of only "sweet food" (मधुर आहारः - madhura āhāraḥ), excluding salty food, is strange, because, as it stands, it seems that sweet food is prioritised over salty food.

4b/5/6-Āsana, posture

आसनं द्विविधं प्रोक्तं पद्मं वज्रासनं तथा ।।४ ।।
ऊर्वोरुपरि चेद्धत्ते उभे पादतले यथा।
पद्मासनं भवेदेतत्सर्वपापप्रणाशनम् ।।५ ।।
वामाङ्घ्रिमूलकन्दाधो ह्यन्यं तदुपरि क्षिपेत्।
समग्रीवशिरः कायो वज्रासनमितीरितम् ।।६ ।।
āsanaṃ dvividhaṃ proktaṃ padmaṃ vajrāsanaṃ tathā // 4b //
ūrvorupari ceddhatte ubhe pādatale yathā / padmāsanaṃ bhavet etatsarvapāpapraṇāśanam // 5 //
vāmāṅghrimūlakandādho hyanyaṃ tadupari kṣipet / samagrīvaśiraḥ kāyo vajrāsanamitīritam // 6 //
4b/5/6-So, two types of postures padmāsanam and vajrāsanam have been declared: padmāsana, if both soles of the feet are placed on top of the thighs; This is the destroyer of all sins, (and) Vajrāsana when the left foot is placed below the mūlakanda, the other above it, with the neck, head and body aligned (vertically).

Critical note: The phrase एतत्सर्वपापप्रणाशनम् - etatsarvapāpapraṇāśanam (this is the destroyer of all sins) that the positioning in पद्मासनं-padmāsanaṃ (lotus position), is "the destroyer of all sins", is debatable. This can only be a hyperbolic reverence for the sanctity created by yogis for this position (āsana), as well as, even more controversially, the fact that each religion, each sect, each tradition, each era, and each region possesses different concepts of sin, and these concepts change over time, even within the same tradition. Therefore, it is common to find practitioners of padmāsana, for many years of their lives, who continue to sin. Some translators have translated वाम-अङ्घ्रि- vāma anghri (left foot) as "left heel," while "left foot (anghri) (vāma)" is more accurate.

7/8/9/10a- Śakticāla, raising the kuṇḍalinī

कुण्डल्येव भवेच्छक्तिस्तां तु संचालयेद्बुध ।
स्वस्थानाभा भ्रुवोर्मध्यं शक्तिचालनमुच्यते ।।७।।
तत्साधने द्वयं मुख्यं सरस्वत्सास्तु चालनम् ।
प्राणरोधमथाभ्यासाद्दज्वी कुण्डलिनी भवेत् ।।८।।
तयोरादौ सरस्वत्याश्चालनं कथयामि ते ।
अरुन्धत्येव कथिता पुराविद्भिः सरस्वती ।।९।।
यस्याः संचालनेनैव स्वयं चलति कुण्डली ।१०।
kuṇḍalyeva bhavecchaktistāṃ tu saṃcālayedbudha / svasthānābhā bhruvormadhyaṃ śakticālanam ucyate // 7 //
tatsādhane dvayaṃ mukhyaṃ sarasvatsāstu cālanam / prāṇarodhamathābhyāsādṛjvī kuṇḍalinī bhavet // 8 //
tayorādau sarasvatyāścālanaṃ kathayāmi te / arundhatyeva kathitā purāvidbhiḥ sarasvatī // 9 //
yasyāḥ saṃcālanenaiva svayaṃ calati kuṇḍalī // 10a //
7/8/9/10a - Śakti is truly kuṇḍalinī. The wise person must move it from its abode in the navel to the middle of the eyebrows. This is called śakticālana (elevation of śakti). To achieve this, two things are essential: sarasvatīcāla and control of prāṇa. Then, through practice, kuṇḍalinī becomes straight. Of these two, I will describe

sarasvatīcāla to you first. Those who know the past say that Sarasvati is truly Arundhati. Only by awakening her will kuṇḍalinī emerge spontaneously.

Critical note: The phrase संचालयेद्बुध स्वस्थानाभा भ्रुवोर्मध्यं-saṃcālayedbudha svasthānābhā bhruvormadhyaṃ (the sage must move it from its dwelling in the navel to the middle of the eyebrows) is problematic due to the grammatical ellipses in the phrase, which are common in the Sanskrit language. Thus, the concise meaning leads to a physiological controversy. Therefore, some translators interpret it differently: "it must move it from its dwelling (in the mūlādhāra) to the middle of the eyebrows," thus creating the controversy that the dwelling स्वस्थ-swastha (dwelling, base, residence, place of origin) of the kundalini is in the mūlādhāra chakra, while the locative noun नाभा-nābhā (in the navel), present in the phrase, locates it in the umbilical region.

Once again, the masculine noun बुधः-budhaḥ is translated, in some editions, as "a wise person," in order to avoid a possible sexist meaning in the verse. The phrase "Those who know the past say that Sarasvati is actually Arundhati" can only refer to the "mythological past," and not the historical past, since there is no historical trace of Sarasvati having had an earthly existence.

10b/11/12/13/14/15/16/17/18-śakticāla Method

इडायां वहति प्राणे बद्ध्वा पद्मासनं दृढम् ।।१०।।
द्वादशाङ्गुलदैर्घ्यं च अम्बरं चतुरङ्गुलम्।
विस्तीर्य तेन तनानाडीं वेष्टयित्वा ततः सुधीः ।।११ ।।
अङ्गुष्ठतर्जनीभ्यां तु हस्ताभ्यां धारयेद्दृवढम्।
स्वशक्त्या चालयेद्वामे दक्षिणेन पुनःपुनः ।।१२ ।।
मुहूर्तद्वयपर्यन्तं निर्भयाच्चालयेत्सुधीः।
ऊर्ध्वमाकर्षयेत्किंचित्सुषुम्नां कुण्डलीगताम् ।।१३ ।।
तेन कुण्डलिनी तस्याः सुषुम्नाया मुखं व्रजेत्।
जहाति तस्मात्प्राणोऽयं सुषुम्नां व्रजति स्वतः ।।१४ ।।

तुन्दे तु तानं कुर्याच्च कण्ठसंकोचने कृते।
सरस्वत्यां चालनेन वक्षसश्चोर्ध्वगो मरुत् ।।१५ ।।
सूर्येण रेचयेद्वायुं सरस्वत्यास्तु चालने।
कण्ठसंकोचनं कृत्वा वक्षसश्चोर्ध्वगो मरुत् ।।१६ ।।
तस्मात्संचालयेन्नित्यं शब्दगर्भा सरस्वतीम् ।
यस्याः संचालनेनैव योगी रोगैः प्रमुच्यते ।।१७।।
गुल्मं जलोदरः प्लीहा ये चान्ये तुन्दमध्यगाः ।
सर्वे ते शक्तिचालेन रोगा नायन्ति निश्चयम् ।।१८ ।।
iḍāyāṃ vahati prāṇe baddhvā padmāsanaṃ dṛḍham //10b//
dvādaśāṅguladairghyaṃ ca ambaraṃ caturaṅgulam /
vistīrya tena tanānāḍīṃ veṣṭayitvā tataḥ sudhīḥ // 11 //
aṅguṣṭha-tarjanībhyāṃ tu hastābhyāṃ dhārayet dvaḍham /
svaśaktyā cālayet vāme dakshiṇena punaḥpunaḥ //12//
muhūrtadvayaparyantaṃ nirbhayāccālayetsudhīḥ /
ūrdhvamākarṣayetkiṃcitsuṣumnāṃ kuṇḍalīgatām // 13 //
tena kuṇḍalinī tasyāḥ suṣumnāyā mukhaṃ vrajet /
jahāti tasmāt prāṇaḥ ayam suṣumnāṃ vrajati svataḥ //14//
tunde tu tānaṃ kuryācca kaṇṭhasaṃkocane kṛte / sarasvatyāṃ cālanena vakṣasaścordhvago marut // 15 //
sūryeṇa recayedvāyuṃ sarasvatyāstu cālane / kaṇṭhasaṃkocanaṃ kṛtvā vakṣasaścordhvago marut // 16 //
tasmātsaṃcālayennityaṃ śabdagarbhā sarasvatīm /
yasyāḥ saṃcālanenaiva yogī rogaiḥ pramucyate // 17 //
gulmaṃ jalodaraḥ plīhā ye cānye tundamadhyagāḥ /
sarve te śakticālena rogā nāyanti niścayam // 18 //
10b/11/12/13/14/15/16/17/18 - The sage should firmly assume padmāsana and conduct prāṇa through the iḍā, then he should extend (his breath) to twelve fingers in length and four fingers in width, thus encompassing the nāḍīs one after the other. He should grasp (the lower ribs) with the thumb and index fingers of both hands and shake the śakti repeatedly from right to left. The sage should shake it fearlessly for the duration of two muhūrtas (48 minutes). He should move it slightly upwards so that the kuṇḍalinī enters the suṣumnā. Thus, kuṇḍalinī enters the mouth of the suṣumnā. The

prana (energy) starts there and enters the sushumna (sacral chamber) of its own accord. One should expand the abdomen by contracting the throat. By agitating sarasvati (sacral sage), the prana rises and reaches the chest. One should exhale through the right nostril, (while) continuing to agitate sarasvati and contract the throat; the prana rises (from) the chest. Sarasvati has its own sound which must be continuously activated. Therefore, simply by awakening it, the yogi becomes free from disease. Diseases of the spleen, dropsy, and all other diseases arising in the abdomen are certainly avoided by śakticāla.

Critical note: These verses are so diversely translated and interpreted in the translations consulted that it becomes difficult to point out and comment on each one, due to the brevity of the exposition, which, for a precise understanding, requires a demonstration lesson. Thus, each translator interprets in the way they were instructed by their guru, especially the details that are omitted in the description above. There are few readers who are interested in comparing translations of the same text, and therefore do not know that they are surprisingly divergent in text, wording, chapter and verse numbering, etc., and even in length.

The phrase जहाति तस्मात्प्राणोऽयं सुषुम्नां व्रजति स्वतः-jahāti tasmāt prāṇaḥ ayam suṣumnāṃ vrajati svataḥ (prāṇa departs from there and enters the suṣumnā of its own accord), in the second half of verse 14, is problematic, since stating that prāna (vital energy) has its own will. (स्वतः-svatah) is a delusion. To have "free will" one needs to have consciousness; in nature, conscious energy does not exist, as no energy with consciousness, much less "free will," has ever been scientifically found. Conscious energies (shakti, prana, etc.) are imagined only in the unfounded speculations of religious people, yogis, and esotericists. The four fundamental forces of the universe, recognised today by Natural Science (Gravity, Electromagnetism, Weak Nuclear Force, and Strong Nuclear Force), none of them possesses consciousness, nor free will. Imagine if gravity had

consciousness and decided, of its own free will, because that which possesses free will possesses free will, to paralyse its activity on planet Earth; then we would all be launched into space. Similarly, imagine if prana (vital energy) decided, of its own free will, instead of entering the sushumna channel, to enter the intestine. One translator rendered verse 11 as follows: "Then the wise yogi should cover (वेष्टयित्वा-veṣṭayitvā) the nadi (at the location of the kanda) with a piece of cloth, which should be twelve inches long and four inches wide" (VISHNUSWAROOP, 2015: 16). Well, attempting to "cover the nadi (subtle energy channel) with a piece of cloth," that is, something physical, is incomprehensible, therefore diverging from all other translations consulted. Another translator rendered it "Then, the wise man must bind the nādi by means of this extended breath..." (AIYAR, 2003: 200). Also, attempting to "bind (वेष्टयित्वा) the nādi by means of breath" is problematic. The translations of the verb वेष्टयित्वा-veṣṭayitvā (must cover) from the verbal root वेष्ट्-veṣṭh (to cover, bind, wrap, envelop, clothe) are divergent in the translations consulted, due to the strangeness of the phrase's meaning.

"Therefore, simply by awakening it, the yogi becomes free from disease. Diseases of the spleen, dropsy, and all other diseases that arise in the abdomen are certainly avoided by śakticāla". When we read about religious disciplines or practice them, the reader or practitioner must pay attention to understanding them in their historical context and environment. To do so, a certain knowledge of the history of science and, in the case above, the history of medicine is necessary. For these teachings were speculated upon in Antiquity and the Middle Ages, when medical research was still primitive compared to current knowledge and technologies, and then transmitted almost unchanged for centuries without correction or improvement. When a teaching is sacralised, it becomes recognised as "truth" by religious people, transforming into an "eternal truth," therefore requiring no further improvement; this is the understanding of religious people, and consequently, it endures for centuries. This is

the fate of speculations undertaken within the religious environment. Therefore, a conservatism characteristic of religious mentality.

The fantastic healing powers are not only those mentioned above; Swami Sivananda listed the following exaggerated healing powers achieved through the practice of yoga exercises: "the sūryabheda kumbaka (a form of breath retention during prānāyāma) destroys intestinal worms and the four ills created by vāyu (air)." That is, this exercise works like a dewormer for worms. Therefore, imagine someone with the giardia parasite in their intestines, a disease known as giardiasis, being treated through a disconnected breath retention exercise. Because, depending on how long the breath retention lasts, the practitioner could die from lack of air before the parasite. And further on, another yoga exercise "purifies the body, removes diseases and increases gastric fire. It also removes heat in the head and phlegm in the throat. The practice of sitali (another yoga exercise) "refreshes the body." "It destroys spleen disease (gulma), dyspepsia, cholera, fever, thirst, and poison" (SIVANANDA, 1980: 209). Well, if these utopian means of healing were truly effective, there would be no need for medicines and pharmacies, as well as vaccines. A yoga exercise that destroys cholera, thirst, and poison only exists in religious books and guru preachings, because in real life, only vaccines, potable water, and antidotes are effective. It is imperative to remember that these promises of healing were imagined at a time when the sciences of Chemistry and Biology did not yet exist, therefore at a time when medicine was in its infancy, and the causes of these diseases were unknown. Before the invention of the microscope, and the consequent creation of microscopic biology, it was not possible to know the presence of the Giardia protozoan in the small intestine of humans and animals. Giardiasis is more frequent in Dogs and cats, one of my famine dogs has already had this disease, one of the symptoms is loss of appetite.

To understand the difference between knowledge derived from yoga practices and knowledge derived from scientific

experience, it is necessary, as an introduction, to understand the methodological differences between the two. That is, to understand the methodological difference between scientific evidence and anecdotal evidence, this is the next topic.

Part Three

III.1. Risks to Physical and Mental Health

Attempts to awaken and then ascend the conjectural Kundalini energy primarily involve physical and psychological risks of trying to awaken something that does not exist. The symptoms felt by the practitioner are reactions of the brain and nervous system to the strangeness and unnaturalness of the exercises, which can lead to serious health problems, including damage to the nervous system and psychotic episodes, especially in many cases, in predisposed individuals. Those who practice or have practiced Kundalini yoga, or at least have lived with practitioners, but maintain or have maintained a lucid perception, are or were able to observe that almost all practitioners are, varying in degree from one to another, psychotic; therefore, some more so than others. Below I list some of the most frequent physical and psychological damages:

a) Damage to the spine and nervous system:
Exercises to awaken and ascend the imaginary Kundalini energy can harm the spine and nervous system due to the unnaturalness of the practices, since the human organism was not naturally developed for forced exercises.

b) Psychotic disorders:
Very strenuous practices in an attempt to activate and raise the hypothetical Kundalini energy can trigger or aggravate psychotic disorders, especially in predisposed individuals. The aggravation is very likely, given that almost all practitioners are potentially psychotic, believing in an imaginary energy whose existence has not been proven.

c) Emotional and psychological disorders:

The practice can intensify unresolved psychological conflicts, leading to mood swings, fear, confusion, as well as increased credulity and delusions.

d) Ethical criticisms and allegations of abuse:
Conduct of charlatans: Yogi Bhajan
The yogic environment is full of charlatan gurus; it is difficult to find someone who is not. Members of the inner circle of Yogi Bhajan, founder of 3OH Kundalini Yoga in the USA, have made accusations of abusive behaviour by the guru, including soliciting women for massages and sexual encounters.

e) Atmosphere of fanaticism, power, and control:
The 3OH Kundalini Yoga Organization allegedly imposed a culture in which criticism of Yogi Bhajan was forbidden, and followers were expected to demonstrate unquestioning faith.

Kundalini yoga instructors often argue that practitioners' physical and mental health problems arise from poorly executed practice, that is, without the responsible guidance of an experienced guru, therefore something like a self-taught practitioner. Because, when the practitioner is well guided, progress is safe and health is guaranteed. However, when viewed from a critical perspective, what can be observed in the yogic environment is the fact that, in most cases, yoga gurus are more psychotic than novice practitioners, as they believe in even more absurd ideas and in the effectiveness of certain practices that, contrary to expectations, are sterile or, worse, harmful.

III.2. Anecdotal Evidence

This is evidence based on descriptions and accounts of casual experiences or individual and personal observations, collected unsystematically and randomly. Anecdotal evidence may be

true or false, but it is generally not subject to the methodology of the academic method, the scientific method, or the rules of legal, historical, academic, or intellectual rigour, meaning there is little or no safeguard against imagination, conjecture or delusion.

The persuasiveness of anecdotal evidence compared to the conviction[43] of statistical evidence has been the subject of debate; some studies have argued for a widespread tendency to overvalue anecdotal evidence, while others have emphasised the types of argument as a prerequisite or rejected the conclusion of anecdotal evidence altogether. In science, definitions of anecdotal evidence include:

- Casual observations/indications rather than rigorous or scientific analyses
- Information passed down orally but not scientifically documented
- Evidence that comes from an individual experience. This could be a person's experience with an illness or a professional's experience based on one or more patients outside of a formal research study
- The account of an experience by one or more people that is not objectively documented or an experience or outcome that occurred outside of a controlled environment.

Anecdotal evidence can be considered within the scope of the scientific method, as some anecdotal evidence can be empirical

43 In the Science of Persuasion and Rhetoric, it is enlightening to make the following distinction. Persuasion is differentiated from convincing, to better explain the nature of both, in the following way: Persuasion is defined as the way to lead someone to "believe" and/or "act" without prior information gathering, without prior reflection and analysis; that is, persuasion leads someone to "believe" and/or "do" without reflecting. While convincing leads someone to "understand" and/or "act" through demonstration, clarification, support, argumentation, and presentation of evidence, with prior information gathering, prior use of analysis and reflection. In short, persuasion leads someone to "believe" (without needing to understand), while convincing leads someone to "understand" (without needing to believe), because "belief" is different from "understanding".

and verifiable, for example, in the use of case studies in medicine. Other anecdotal evidence, however, does not qualify as scientific evidence because its nature prevents it from being investigated by the scientific method, for example, in mythology, religion, folklore, or in the case of intentionally fictional anecdotes. Where only one or a few anecdotes are presented, there is a chance that they are unreliable due to selective or unrepresentative samples of typical cases. Similarly, psychologists have found that, due to cognitive bias, people are more likely to remember remarkable or unusual examples than typical ones. Thus, even when accurate, anecdotal evidence is not necessarily representative of a typical experience. The precise determination of whether an anecdote is typical requires statistical evidence. The misuse of anecdotal evidence in the form of anecdote-based arguments is an informal fallacy, sometimes called the "person-who" fallacy ("I know someone who..."; "I know of a case where..." etc.) which gives undue weight to the experiences of close peers that may not be typical.

Anecdotal evidence can have varying degrees of formality. For example, in medicine, anecdotal evidence published by a trained observer (whether a physician or a psychologist, for example) is called a case report and is subject to formal peer review. Although such evidence is not seen as conclusive, researchers may sometimes consider it as an incentive for future, more rigorous scientific study of the phenomenon in question; that is, it may be considered merely a "clue" and not evidence or proof. Anecdotal evidence is considered the least reliable type of information gathering for later scientific research. Exceptionally, researchers may use anecdotal evidence to suggest new hypotheses, but never as conclusive validating evidence. If an anecdote illustrates a desired conclusion rather than a scientific conclusion, it is considered a flawed or hasty generalisation.

In any case where some factor affects the probability of an outcome, rather than uniquely determining it, selected individual cases prove nothing; For example, “my grandfather smoked two

packs a day until he died after the age of 90” and “my sister never smoked, but died of lung cancer before middle age.” Anecdotes often refer to the exception, not the rule: Anecdotes are useless precisely because they can point to biased, tendentious, and idiosyncratic answers. In medicine, anecdotal evidence can also be subject to placebo effects.

Therefore, a clear understanding of the difference between anecdotal evidence and scientific evidence is indispensable in evaluating the evidence for the data to be investigated during scientific research. The differentiation between the two is immense. With this understanding in mind, it is possible to more clearly perceive the size of the methodological problem in equating these two modalities of evidence, placing them on the same probative level. Due to this oversight, studies and books abound in Hinduism with titles such as: "Science of the Absolute" (Brahma Vidyā), "Science of Yoga" (Yoga Vidyā), "Science of Prānāyāma," "Science of Mantra" (Mantra Vidyā), and the one of most interest to this study, "Science of Kundalini" (Kundalnī Vidyā), consequently revealing a blatant anachronism in the translations of ancient books into contemporary languages. Firstly, this equation of the category of proofs occurs because of the translation, into contemporary languages, of the Sanskrit word विद्या – vidyā, commonly translated as "Science," leading the reader or listener to understand that the same understanding of knowledge was present in the minds of ancient speculators and current scientists. Therefore, it is essential to take this into account. The technical concept of Science that we have today is very different from what the ancients thought about science. Science was one thing in Antiquity, another in the Middle Ages, another during the Scientific Revolution, another during the Industrial Revolution, and it is something else entirely in the 21st century. The methodology, the instrumentation, the rigour, and the accumulated discoveries are very different from the past. Therefore, the most appropriate word to translate vidyā is "knowledge," which is more pulverised and devoid of the technical meaning that the term

"Science" currently receives. Otherwise, the reader will be led to believe that Science, as we know it today, already existed in Antiquity, and then will be led to believe that the ancients knew about the Big Bang, Black Holes, the Higgs Boson, dark energy and matter, DNA, the Genome, Genetics, Quantum Mechanics, etc., just as it is possible to find current and recent authors identifying ancient speculations with modern scientific concepts, through a blatant scientific anachronism.

Another glaring confusion is with the Sanskrit noun अणुः (anuh), generally translated as "atom," leading the reader to believe it refers to the atom of modern science, composed of a nucleus (protons and neutrons) and electrons. The term atom originates from the Greek ἄτομος (atomos, "indivisible"), formed from ἀ (a - "not") and τέμνω (temnō, - "to cut"), meaning anything that cannot be cut or that is indivisible. The concept of the atom as an indivisible component of matter was initially proposed by Greek and Indian philosophers. Only in the 18th and 19th centuries was a physical explanation established for this idea, after it was verified that there was a physical limit beyond which it was not possible to divide certain substances using chemical methods. This limit was very similar to what the ancient philosophical concept of the atom described; that is, the idea of indivisibility was the same, but what this indivisibility was different in Modern Physics. During the late 19th and early 20th centuries, several subatomic components and structures within the atom were discovered, thus demonstrating that the "chemical atom" could in fact be divided, although the name has remained to this day. Currently, we know that the atom is not the smallest division of matter, as we already know, through experimental verification, the subatomic particles (quarks, Higgs boson, neutrinos, etc.). The concept that matter is made up of individual units and that it cannot be arbitrarily divided into ever smaller quantities has existed since Antiquity. However, this concept was based on philosophical speculation, and not on experimentation, empirical observation, and the use of instrumentation (particle

collider, for example). The nature of atoms in philosophy has varied considerably over time and across cultures and schools of thought, often being associated with spiritual elements. The earliest references to the concept of the atom date back to ancient India in the 6th century BCE. The traditions of the Nyaya and Vaisheshika schools developed complex theories about how atoms combined to form more complex objects, first in pairs and then in trios of pairs. In the West, the first references to atoms appear a century later with Leucippus, whose thought was systematised by his student, Democritus, who around 450 BCE coined the term atom. Although in the Indian and Greek concepts, atoms were based exclusively on philosophy, modern science would adopt, centuries later, the name proposed by Democritus. That is, the name is the same given by the ancient Greek speculators, but the nature and composition of the modern atom is very different.

III.3. Kundalini as Anecdotal Evidence

Before the period of investigation through objective experiments on elements and phenomena related to yoga, from the beginning of the 20th century, all the data we possessed were extracted from accounts of speculations and subjective experiences of practitioners; therefore, they represented anecdotal evidence. The yogic experience is eminently an anecdotal experience, being individual, subjective, and casual, and does not represent a pattern. Consequently, the divergences in the accounts of experiences and in the descriptive theories, which evolved throughout history, are such that the earliest ideas in the oldest Upanishads and the oldest Tantric texts are considerably different from those more elaborated in the more recent texts. Because it is an individual, subjective, and non-shareable experience, it allows for an uncountable range of incompatible anecdotal accounts, as there is no uniformity, making it impossible to consider as scientific evidence. Therefore, there is no "Science of Kundalini," but rather hypothetical and technical

speculations with unsystematic and non-uniform methodology. Thus, there is no safeguard against imagination, conjecture, or imprecision.

One difficulty in the scientific study of kundalini is the task of separating symbolism, mythology, utopias, optimism, wonder, etc., from what can be physically experienced. When this task is accomplished, little material remains for research, and when executed, the results are immensely smaller than the promising and exaggerated results reported in the experiences of adepts. Attempts of this nature have been made since the beginning of the last century, but everything remains within the limits of hypotheses, as we will see in the following section. In the preceding pages, it was possible to convey to the reader an idea of how delusional theories and accounts can be. Because it is so individual, subjective, and casual, it is almost impossible to separate yogic experiences from anecdotal experiences.

III.4. Final Analysis: Does Kundalini Really Exist?

Although several experiments have been attempted to scientifically prove the existence of these organs and this subtle energy, none have received recognition from the scientific community because they failed to meet the methodological prerequisites demanded by scientific rigour. Since these experiments were not confirmed by peer review, nor exhaustively replicated with the same results by other researchers, and lacking the elimination of all contrary hypotheses and the absence of ideological bias, they did not receive academic approval. Consequently, these experiments were never published in the main journals and newspapers of the scientific community (Nature, Science, Scientific American, etc.). For the scientific community, these experiments are pseudoscience. Therefore, the existence of these subtle elements (Prāna, chakras, nādis, sushumna, and kundalini) has never been experimentally proven, as the experiences reported in books and by gurus are anecdotal experiences, contrary to the scientific method. The most

we can scientifically gain from some experiments are those free from the confessional impulses of researchers engaged in religious tradition. These discard the delirious exaltations of yoga practitioners, extracting only what can be physically experienced and scientifically proven using a rigorous method, for example, the Randomised Controlled Trial (RCT). This is a study in which participants are randomly assigned to an experimental group, which receives the intervention, or to a control group, which receives a placebo or standard treatment. Randomisation helps to balance the characteristics of the participants between the groups, reducing biases and making it possible to attribute any difference in the results to the intervention itself. RCTs are considered the "gold standard" for determining the efficacy and safety of new treatments, procedures, or interventions, especially in health and social sciences. An example of research, according to this criterion, is the study "The Impact of Kundalini Yoga on Cognitive Function and Memory: A Systematic Review of Randomized Controlled Trials," by Selmaraj Giridharan, Nagaraj V. Kumar, and Rajanee Bhana. This research focused on the effectiveness of Kundalini Yoga practice for elderly individuals at risk of cognitive decline, memory loss, and dementia. Therefore, it was a study conducted independently of the optimistic pronouncements of Hindu apologists and enthusiastic practitioners, with very positive results (GIRIDHARAN, 2024).

However, strictly speaking, when relaxation practices, meditation, breath control, and mantra chanting produce beneficial results in the process of cognitive decline and memory loss in the elderly, it does not necessarily mean that kundalini exists, because what underlies these beneficial results is the brain. Therefore, conducting experiments without knowing the history of the creation and development of Hindu physiology and medicine, especially yogic and tantric physiology, is not sufficient proof that kundalini exists. What provides these beneficial results is the human brain, not the presence of kundalini. Many previous experiments, without considering kundalini, have already been conducted and achieved

similar results, because it is not kundalini that provides the positive results, but rather the human brain. The brain does not need kundalini to provide these results. The ideas and practices of Kundalini Yoga were created and developed in ancient times, under limited scientific circumstances, without the technological instruments that have provided great discoveries and advances in the understanding of causes, at a time when the multiple and complex functions of the brain were still unknown. Therefore, due to this lack of knowledge, ancient mystical speculators attributed the causes to supernatural elements: chakras, nadis, pranas, granthis, and sushumna. The most evident proof that similar results can be achieved, regardless of whether they are Kundalini Yoga practices, was demonstrated in experiments with Buddhist monks in meditation, who do not recognise the existence of Kundalini in their doctrines. On the other hand, the weak point of the research by Selvaraj Giridharan et al. is that it was based on Kundalini yoga exercises practiced by followers of the controversial guru Yogi Bhajan, whose birth name was Harbhajan Singh Puri (1929-2004), an Indian Kundalini yoga guru of Sikh origin, who eventually became entangled in a sea of accusations and lawsuits regarding sexual abuse, through an investigation called the Olive Branch Report, in which he is accused of sexually abusing dozens of his female followers, something similar to what happened with the charlatan João de Deus (John of God). Besides being a Kundalini yoga guru, he also became, paradoxically, a wealthy businessman, launched a tea brand, Yogi Tea, received government subsidies, interfered in politics, made million-dollar donations to political campaigns in the USA, and engaged in other deviations from yogic conduct.[44]

On the other hand, in contrast, other research uses questionnaires as a criterion. These are criteria that extract evidence of an anecdotal nature, therefore less reliable, especially when those questioned are practitioners strongly engaged in their doctrines, as

44 For details, see: A Yogi's Requiem by Gina Piccalo, Los Angeles Times, Oct. 23, 2004.

they respond more in accordance with what they have been taught than what they actually experience. For example, the research by Selvaraj Giridharan et al. used the kundalini yoga practices of followers of the guru Yogi Bhajan, while the research by Sucharit Katyak and Richard W. Maxwell [45]was extracted from experiences, through questionnaires, of disciples of the Ananda Marga religion.

An essential starting point for understanding the theory of kundalini is the ancient belief of speculators in the correspondence between the macrocosm (the universe) and the microcosm (man). An ancient hypothesis that attempted to explain the body with the help of the cosmos and the cosmos with the help of the body. For Tantrics, kundalini is both a cosmic energy and an individual energy; the interconnection between the two is indissoluble. Swami Sivananda taught that "man is the microcosm (pinda-kshudra-brahmanda). All things seen in the universe, mountains, rivers, bhutas (dense elements comprising nature) also exist in the body. All tattwas and lokas (worlds) are within the body" (SIVANANDA, 1980: 30). However, these interconnections are not always consistent, as in many cases a great deal of credulity is required in hypothetical speculations, which rarely fit together. This interconnection is also an ancient speculation very central to Western esotericism, to the point of creating the esoteric maxim: "as above, so below; as below, so above." However, this maxim can only be applied to the past, when both cosmology and physiology were studied without the instruments that revolutionised scientific research, the telescope and the microscope respectively. The creation of these two instruments was a dividing line in the research of these two areas of knowledge, so that we can say that in cosmology there is a phase before the creation of the telescope, and another after its invention. Similarly, there is a phase before the invention of the microscope and another after its creation for physiology. Therefore, from a superficial view,

45 *Characteristics of Kundalini-Related Sensory, Motor and Affetive Expiriences During Tantric Yoga Meditation* in Frontiers in Psychology, June 2022.

when objects are seen with the naked eye, the similarity between them is greater than when examined in detail, and even more so when viewed through magnifying instruments.

Although it is difficult to prove the existence of something beyond the physical world, that is, the subtle (sūkshma), it is possible, from the speculations about the physical world, about nature, about the universe, about the organism, etc., of these ancient "sages," to perceive how much these speculators were wrong in their ideas. Based on these discrepancies, the skeptic is led to question how it is possible for an investigator, or even a seer, to be correct in their ideas about the invisible world, given that they themselves were so wrong in their speculations about the physical world. Did the ancients perceive the invisible world better than the visible world? How is this possible? In short, to conclude, from a scientific point of view, kundalini remains merely a conjecture.

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